



THE
BONES,
LIGAMENTS, AND MUSCLES,
OF THE
DOMESTIC CAT
(*Felis Catus Linn.*).

The plates accompanying the text are copies, reduced one-third, from the outline plates in
Hercule Straus-Durckheim's "Anatomie Descriptive et Com-
parative du Chat," Paris, 1845, and prepared by
the Osborne Photo-lithographic process.

The Text

BY

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THE
BONES, MUSCLES AND LIGAMENTS

OF THE
DOMESTIC CAT
(*Felis Catis* Linn.).

INTRODUCTION.

IN the preparation of this little work the attempt is made to furnish, in a concise and convenient form, the means of learning the characters and scientific nomenclature of the bony frame-work, the ligaments and the muscles of a typical vertebrate animal.

The common domestic Cat has been selected as peculiarly well adapted to represent the anatomical structure of the higher vertebrates; and, as Straus-Durckheim has shown, it is one of the best subjects that can be found to stand as a typical Mammal.

While, in general outline and in some of its special features, it is quite different from man, its structure is so similar as to make the identification of homologous parts both simple and easy, when compared with those of the latter. As a type, it is even better adapted to exhibit the general laws and principles of anatomical structure among mammals than is the human subject.

For one expecting to enter the medical profession, there can be no better method of gaining a sound scientific knowledge of man's organization and physiological functions than by beginning his studies with the investigation of an animal in which all the essential parts of his structure are represented, but with just enough variation to draw his attention forcibly to those points which he finds to be in common when he comes to the proper studies of his profession. He will thus be led

to observe the differences, physiological as well as anatomical, between the characters which are peculiar to the human species, and those by which man is intimately linked with mammals in particular, and, in a broader sense, with the whole animal kingdom.

A second advantage to be gained by a careful and minute knowledge of the anatomical structure of such an animal, is that it will serve him to the furthest extent possible when he wishes to carry on physiological investigations.

Vivisection is never allowable upon the human subject; but under certain circumstances the laws of physiological action may be investigated upon the brute animal while its vital functions are intact. The very science of physiology is to a great degree based upon such investigations of the Rabbit, Guinea-pig, Dog and Cat, and yet for none of these well known animals has the anatomical structure been worked out with that minuteness and fulness demanded by the present state of biological science. For the Rabbit we have the work of W. Krause (*"Anatomie der Kaninchens, etc."*), which is a very good work in so far as it gives a general view of the main anatomical parts, but it is not well enough illustrated to be of much use to the beginner when taken by itself.

The convenient size for the dissecting table also adapts the Cat to the uses of the student of anatomy. Its size is such as not to make it unwieldy, nor on the other hand is it so small as to trouble the unassisted eye in following the more delicate parts of structure.

Again, the Cat is so common that any student may obtain a subject without difficulty, and the fertility of the species provides the means for research in the direction of embryology and individual development.

Its strength, agility and ferocity when tormented, will serve as checks upon any torture under vivisection, which a weaker or more timid animal might be forced to suffer under the knife of the too eager investigator.

But the character which specially recommends this species as a standard example for reference and comparison, is that of its structural uniformity. Though differences in color and, rarely, of size may be found, this uniformity is so nearly universal that it is pretty certain that any decided variation from the normal anatomy of any well-developed example of the species would be marked at once as an individual peculiarity.

In consideration of the above facts the domestic Cat seems particularly worthy of having its anatomy described and figured with special care and completeness. This work has been done faithfully for the

Bones, Ligaments and Muscles by Hercule Straus-Durckheim, but the description and illustration of the nervous, digestive and circulatory systems, with the reproduction and special secretory and excretory organs has not been accomplished. The work of Straus-Durckheim ("Anatomie Descriptive et Comparative du Chat," Paris, 1845), has been taken as the foundation for the present work. His outline plates are here reproduced, and so reduced as to make them of convenient size for practical use in the laboratory. His nomenclature is entirely French, and while his identification of parts has been followed to a considerable extent, the explanatory index here presented in Latin form of nomenclature is rather a revision than a simple reproduction of the matter in the original work, and for this the writer is in the main responsible.

There are, undoubtedly, many names here adopted which may meet with objection; but if the imperfections here found shall turn the attention of working comparative anatomists to the crying need of a standard and uniform nomenclature for their science, the fullest criticism will be welcomed.

If found practicable this work will be followed by a descriptive vocabulary containing the synonymy, as well as a succinct description of each part herein illustrated. It is greatly to be desired that the remainder of the special anatomy of the Cat be worked up as fully as Straus-Durckheim has done for the Bones, Ligaments and Muscles, and that this species be generally accepted as a type of the Mammalian group of vertebrates; we hope this may be accomplished at no distant day.

Admirable works on comparative anatomy are not wanting, and the works of Owen, Huxley and Rolleston seem to leave little to be desired in this direction. Still neither of these works is fully adapted to the needs of a beginner, though of great value in his higher studies.

The best text-book for the beginner is the subject itself lying out upon the dissecting table; and while the present work will give him a nomenclature, and maps out the field he is to investigate, he will find useful, for his further guidance Dunglison's Medical Dictionary (although its descriptions are confined within the limits of human anatomy), Owen's Anatomy of Vertebrates, or a full work on Human Anatomy, as Gray's, but better than these in the beginning of his studies will be the help of a competent instructor to direct his work, and examine and criticise the drawings and descriptions he shall make for himself of the bearings, relations, and surfaces of bones, the attachments and functions of ligaments, and the relation to each other, the areas of origin and insertion of muscles, their actions, and counteractions. It is the Anatomy and Physiology of Man that is to be consid-

ered of first importance, but a human subject for the dissecting table can be obtained only by the authorized medical student. If, therefore, we are to consider a knowledge of the physical organization and the physiological action of Man as one of the desirable acquirements of a well-educated man or woman, the importance of finding some other subject, whose organization we can actually investigate with scalpel in hand, and whose functions we may watch and study while in action, is very apparent. In the animal under consideration we see this want supplied. Taking it as our "subject," we may gain a knowledge of Anatomy and Physiology such as books alone can give but the faintest idea.

We must look to the students of vital phenomena in the physiological laboratory, to the work on the dissecting table, to the cannula, the myographion, and the many other implements of modern research, to develop Comparative Anatomy and Physiology into a perfect science of Biology.

As we need look less than a hundred years into the past to find the mysteries of the alchemist in the place of the exact methods and perfect results of modern chemistry, so it may be, could we turn our vision an equal distance into the future, we should see the knowledge of the laws of organic structure and vital phenomena so thoroughly perfected that no educated man or woman would be considered fit to assume the responsibility of living without a complete acquaintance with the principles of structure and function of every organ and part of his body, and the laboratories of chemistry and physiology would stand on an equal footing with the Latin and Greek recitation rooms in the colleges of that future.

HENRY S. WILLIAMS.

Ithaca, January, 1875.

NOTE.—For the convenience of those who may have access to Straus-Durckheim's work, "*Anatomie descriptive et comparative du chat, type des Mammifères en général et des Carnivores en particulier*," the numbering and lettering of the original plates are retained in the present work.

Besides chapters on general and comparative anatomy, and full descriptions of the parts represented in the plates, Straus-Durckheim has figured, in Plate I. "*Le chat sauvage*" (*Felis catus*), the wild, and so considered representative of the domestic cat. Also in Plates XIV. to XXV., by finely shaded engravings the same parts represented in Plates II. to XIII., but without any lettering for reference.

Only Plates II. to XIII. are here reproduced, the others being extraneous to the purposes of this work ; but the latter, as well as the very complete descriptions, will be found of great use to a student wishing to make a thorough study of this branch of Comparative Anatomy.

ABBREVIATIONS,

AND SPECIAL USE OF TYPE MARKS, ETC., IN THE NOMENCLATURE.

a., arteria.
apon., aponeurosis.
anthr., anthropotomy.
add., adductor.
abd., abductor.
C., Co., Cartilago, Cartilagine.
can., canalis.
cerv., cervical.
d., ductus
D., Dens.
dig., digiti.
dors. dorsal.
dors., dorsi, or dorsale.
ext., exterior.
extrn., externi-us, or um.
f., for., ff., foramen, foramina.
fos., fossa.
Gl., Glans, or Glandula.
Lig., Ligs., Ligamentum, Ligamenta.
lin., linea.
long., longi, us, or um.
M., Mm., Musculus, Musculi.
mem., membrana.
min., minimi.
med., medius, -um, or -i.
metat., metatarsale.
n., nervus.
O., Oo., Os, ossa.
Osc., ossiculum.
p., pp., processus, -i.
phal., phalangiale, -is.
ped. pedis.
quart., quarti.
S.-D., Str.-Dur., Hercule Straus-Durckheim.
sec., secundi.

t., tuber, tuberositas.

tert., tertii.

v. vena.

vert., verts., vertebra, vertebræ.

Heavy face type is used to designate the special nomenclature adopted in this work.

Synonyms are set in common Roman type. An initial capital (**Musculus**) signifies that the anatomical part to which the name applies is individually distinct from other parts of the same anatomical structure, while the usage of a small or common initial letter (**processus, nervus**) signifies that the name refers to an extension, cavity, or other physical or formal character of such an individual part.

Quotation marks "—" show that the name is adopted provisionally.

Parenthes marks (—) enclosing part of a name, point to such a part as specially used by some author, or as unnecessary, or else (when it stands in light face type, at the end of a name) as simply explanatory, though not necessary in ordinary application of the name.

Personal names, or abbreviations of them, affixed to a name designate the original author of the name, though in all cases where the original name was not expressed in Latin, the Latin form is assumed.

A Latin nomenclature is used, as being the only form universally recognized by scientific men, and with the hope that by this means some assistance may be given towards the formation of a uniform and systematic nomenclature for comparative anatomy.

EXPLANATORY INDEX.

Plate II.

THE integuments which cover the extremities of the four limbs are left to show how they form a kind of hood covering the upper surface of each digit, and prolonged freely, as far as to the distal phalanges, by means of a broad fold covering the claws.

A Male Cat, with merely the skin removed, showing the more superficial muscles.

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| <p>1, Extremity of the nose covered by the integument.</p> <p>2, Parrhinal cartilage (Cartilago par-rhinalis).</p> <p>3, Ligamentous expansion prolonging the Musculi frontales upon the nose.</p> <p>4, Musculus levator labii superioris proprius; <i>a</i>, cut bristles of the upper lip.</p> <p>5, M. pyramidalis nasi.</p> <p>6, " levator labii superioris alaeque nasi.</p> <p>7, 7', Superficial layer of M. orbicularis oris.</p> <p>8, The eye, (oculus).</p> <p>9, Part of the Lig. fronto-malare.</p> <p>10, sub-maxillary part of M. cervico-facialis (Str.-Dur.); (<i>a</i>, part of the " platysma myoides ");</p> <p>11, temporal part of the same; <i>ab</i>, bristles of the cheek.</p> <p>12, M. labio-auricularis, (Str.-Dur.).</p> <p>13, " supercervico-cutaneus, (Str.-Dur.); <i>ab</i>, its line of attachment to the integument.</p> | <p>14, M. superciliaris. <i>a</i>, bristles of eye-brow.</p> <p>15, M. fronto-auricularis, (Str.-Dur.).</p> <p>16, " temporo-auricularis, (Str.-Dur.).</p> <p>17, " submaxillo-auricularis, (Str.-Dur.).</p> <p>18, depression of the cochlea.</p> <p>19, Lobe of the ear, (lobulus).</p> <p>20, M. antitrigo-lobularis, (Str.-Dur.).</p> <p>21, " temporo-antitrageus, (Str.-Dur.).</p> <p>22, " sub-cervico-auricularis, (Str.-Dur.).</p> <p>23, M. conchæus-externus, (Str.-Dur.).</p> <p>24, The " oreillon," (Str.-Dur.).</p> <p>25, p. ascendens antitragei.</p> <p>26, Lower part of the auricula of the ear.</p> <p>27, 27', M. auricularis externus, (Str.-Dur.).</p> <p>28, 28', Terminal part of the auricula. <i>a</i>, opening of the ear, (auris).</p> <p>29, Internal antero-inferior angle of the auricula.</p> <p>30, M. occipito-auricularis, (Str.-Dur.).</p> <p>31, " sagitto-auricularis, (Str.-Dur.).</p> <p>32, " supercervico-auricularis, (Str.-Dur.).</p> |
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- 33, Extremity of the **Sternum**.
 34, **M. sterno-mastoideus**.
 35, 35', anterior part of **M. pectoralis major**, [**M. ecto-pectoralis**, *large pectoral*, (Bourgelat).].
 36, 36', **M. clavo-cucullaris**, (Str.-Dur.).
ab, clavicular raphes.
 37, **M. acromio-cucullaris**, (Str.-Dur.).
 38, " **dorso-cucullaris**, (Str.-Dur.).
 39, " **transverso-scapularis**, (Schreger); *a*, margin of the **p. recuvatus** of the **Scapula**.
 40, 41, 44, and 45, **aponeurosis brachialis**, which covers the four following muscles (40, 41, 44, 45.)
 40, **M. spino-deltoides**, (Str.-Dur.).
 41, " **triceps externus**, (Str.-Dur.).
 44, " **acromio-deltoides**, (Str.-Dur.).
 45, " **claviculo-deltoides**, (Str.-Dur.); *ab*, clavicular raphe; *de*, median subcutaneous part of the spine of the **scapula**.
 42, **apon. ante-brachialis superficialis**.
 43, **M. pectoralis magnus**, (Str.-Dur.).
 46, First head of the right **M. pecto-ante-brachialis**, (Str.-Dur.);
 47, second head of same.
 48, Part of the right **M. triceps internus**, (Str.-Dur.).
 49, 49', **M. supinator longus**.
 50, A portion of the integument.
 51, **Hypothenar eminence**, (Str.-Dur.).
 52, The thumb, (**Pollex**), first digit of hand; *a*, its tegumentary tunic; *b*, its claw, (unguis).
 53, The second finger, or digit, (**Index**); *a*, tunic; *b*, extremity of its claw;
 54, 55, and 56, the three other digits, (called respectively **Medius**, **Annularis**, and **Minimus** in anthropotomy); *a* and *b*, as in 53.
 57, The "**Pelote**", or pad.
 57,* The "**Pelotines**", or little pads of the digits.
 58, 58', **M. dermo-humeralis**, (Cuv.).
 59, **M. dermo-gastricus**, (Str.-Dur.).
 60, The anus, with a portion of its integument.
 61, The superior part of **M. sphincter (ani) externus**,
 62, of **M. constrictor sacculi ani**, (Str.-Dur.) and
 63, of the **M. levator scroti**, (Str.-Dur.).
 64, Extremity of the **Penis** in a state of repose, the **prepuce** being removed.
 65, the naked **glans penis**.
 66, **M. transversus perinæi**.
 67, Part of **apon. cruralis**.
 68, Origin of **M. parameralis**, (Str.-Dur.) covered by the **apon. cruralis**;
 69, the same covered.
 70, The external bead of **M. biceps cruris**, covered by same aponeurosis.
 71, 71', **M. semitendinosus**.
 72, 72', Anterior part of the **apon. tibialis (superficialis)**;
 73, posterior external fold of same, which arises upon the **M. biceps cruris**.
 74, posterior internal fold arising upon
 75, 75', the **M. arcuatus**, (Str.-Dur.), [**adductor femoris tertius**, (anthrop.)].
 76, The tail enveloped by the **apon. spinalis superficialis**.
 77, **M. gastrocnemius externus**, (Str.-Dur.).
 78, **M. gastrocnemius internus**, (Str.-Dur.).
 79, 79', **M. soleus**.
 80, The **apon. tibialis (profundus)**.
 81, **M. perodactyleus**, (Riolan).
 82, Interval between the posterior profound muscles of the leg, and

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| 83, 83', the <i>tendo achillis</i> . | 96, The <i>malleolus internus</i> . |
| 84, 84', The <i>heel</i> . | 97, Rudiment of the <i>Os primum metatarsale</i> . |
| 85, 85', <i>Ligamentum annulare cruris</i> . | 98, 98', <i>M. flexor brevis digitorum pedis perforatus</i> , [<i>pternondactyleus</i> , (Riolan).]. |
| 86, 86', <i>Lig. annulare anterius calcis</i> , (Str.-Dur.). | 99, 99', Portion of the Integument, same disposition as for the digits, fig. 50. |
| 87, <i>M. cnemodactylæus</i> , (Riolan). | 100, Fifth toe ; |
| 88, The <i>malleolus externus</i> . | 101, 101', fourth toe ; |
| 89, Tendon of <i>M. peronæus primus</i> , [<i>fibulæus</i> , (Spiegel).]. | 102, 102', third toe ; |
| 90, United tendons of | 103, second toe ; |
| 91, <i>M. peronæus secundus</i> and | 104, 104', extremities of the claws. |
| 92, " <i>peronæus tertius</i> . | 105, 105', " <i>Pelote</i> ", or pad of the paw. |
| 93, <i>Lig. annulare externum calcis</i> . | 106, 106', " <i>Pelotines</i> ", or little pads of the digits. |
| 94, <i>Os quintum metatarsale</i> , or fifth metatarsal bone. | |
| 95, Tendon of <i>M. tibialis anticus</i> . | |

Plate III.

The second layer of muscles.

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| 1, The extremity of the nose, (<i>nasus</i>). | 15, The Eye. |
| 2, Prolongation of <i>apon. frontalis</i> upon the nose. | 16, <i>Os malare</i> . |
| 3, <i>M. pyramidalis nasi</i> . | 17, Insertion of the <i>masseter</i> , (<i>M. masseter</i>). |
| 4, Fibro-adipous pad giving insertion to several muscles. | 18, 18', <i>M. fronto-auricularis</i> , (Str.-Dur.). |
| 5, The <i>foramen infraorbitale</i> . | 19, <i>orbital arch</i> . |
| 6, <i>M. "moustachier"</i> (Str.-Dur.). | 20, Position of the <i>Lig. fronto-malare</i> . |
| 7, 7', <i>M. myrtiformis</i> , (Santorini). | 21, 21', <i>M. labio-auricularis</i> , (Str.-Dur.). |
| 8, <i>p. nasalis (super-maxillæ)</i> ;
a, tuberosity to which the eyelids are attached. | 22, <i>M. submaxillo-auricularis</i> , (Str.-Dur.). |
| 9, <i>M. zygomaticus minor</i> . | 23, <i>M. lambdo-conchæus</i> , (Str.-Dur.). |
| 10, " <i>caninus</i> , (Chaus.), (<i>M. levator anguli oris</i> , of anthr.). | 24, <i>Os "maxillare inferius"</i> , the mandible. |
| 11, Profound part of <i>M. orbicularis oris</i> of the upper lip, (<i>labium superius</i>). | 25, <i>M. mylohyoideus</i> . |
| 12, Profound part of <i>M. orbicularis oris</i> of the lower lip, (<i>labium inferius</i>). | 26, 27, The two pieces of the " <i>cornet d'oreille</i> ", (Str.-Dur.) ; |
| 13, 13', <i>M. orbicularis palpebrarum</i> . | 26, the tongue, (" <i>languette</i> ") ; |
| 14, <i>M. levator palpebræ superioris</i> . | 27, the superior piece ; |
| | 28, the inferior part of the " <i>conque</i> ", (Str.-Dur.), <i>concha</i> in a restricted sense, |

- 29, the antitragus ;
- 30, p. "montante" (Str.-Dur.) of the same.
- 31-35, The auricula, or pavilion of the Ear ;
- 31, its inferior part ;
- 32, the lobulus ;
- 33, 33', the superior part.
- 34, The "Oreillon" (Str.-Dur.).
- 35, The orifice of the Ear.
- 36, *M. sagitto auricularis*, (Str.-Dur.).
- 37, " *occipito-auricularis*, (Str.-Dur.).
- 38, *Lig. stylo-maxillare*.
- 39, *M. stylo-glossus*.
- 40, 40', *M. digastricus*, *a*, its raphe.
- 41, *M. stylo-hyoideus*.
- 42, " *subcervico-auricularis*, (Str.-Dur.).
- 43, *M. hyopharyngeus*; (constrict. phary. medius).
- 44, Laryngeal branch of the hyoid apparatus.
- 45, *M. temporo-antitragæus*, (Str.-Dur.).
- 46, Occipital arch, and its prolongation as far as the p. *styloides*, *a*.
- 47, *M. temporalis*.
- 48, *O. petrosum*, (Dulaurens).
- 49, Cephalic branch of the hyoid apparatus.
- 50, *apon. preauriculare*, (Str.-Dur.).
- 51, Zygomatic arch.
- 52, 52', The masseter, (*M. masseter*).
- 53, 53', Clavicular end of *M. clavo-cucullaris*, (Str.-Dur.);
- 54, sterno-clavicular raphe.
- 55, *M. sterno-mastoideus*.
- 56, " *clavo-cucullaris*, (Str.-Dur.).
- 57, " *acromio-cucullaris*, (Str.-Dur.).
- 58, *M. dorso-cucullaris*, (Str.-Dur.).
- 59, *M. transverso-scapularis*, (Schreger).
- 60, *M. infraspinatus*.
- 61, The "trochanter," (greater).
- 62, *M. acromio-deltoidæus*, (Str.-Dur.);
- a*, p. *acromialis* (scapulæ).
- 63, *M. spino-deltoidæus*, (Str.-Dur.);
- 64, " *latissimus dorsi*;
- 64', terminal aponeurosis of the same, forming the first sheet of *apon. spinalis superficialis*, (Str.-Dur.).
- 65, *M. obliquus externus abdominis*,
- 65', its terminal tendon forming the first sheet of *apon. abdominalis*.
- 66, *M. obliquus internus abdominis*,
- 66', its aponeurosis of origin, or second sheet of the *apon. spinalis superficialis*, (Str.-Dur.);
- 66'', 66''', prolongation of the latter upon the Sacrum and Tail ;
- a*, its attachment to the antero-superior spine of the *O. ilium*.
- 67, Tendon of *M. rectus abdominis*.
- 68, Termination of *M. supraspinatus*
- 69, *M. pectoralis latus*, (Bourgelat);
- a*, *b*, its two heads.
- 70, 70', *M. pectoralis magnus*, (Str.-Dur.).
- 71, *M. triceps externus*, (Str.-Dur.);
- a*, its anterior extremity.
- 72, *M. triceps medius*, (Str.-Dur.) covered by *apon. brachialis*.
- 73, a part of *M. triceps internus*, (Str.-Dur.).
- 74, *M. brachialis* (anterior).
- 75, 75', The Elbows.
- 76, 76', The two *Mm. radiales*.
- 77, 77', Second sheet of the *apon. antibrachialis superficialis*;
- 77', *a*, lamina of the second origin ;
- b*, lamina with longitudinal fibres.

- 78, *M. biceps* (flexor cubiti), (*M. coraco-radialis*).
- 78', Lamina of the third origin of the *apon. antibrac. superficialis*.
- 79, 79', the "Hypothenar" eminence, (Str.-Dur.).
- 80, 80', *apon. palmaris*.
- 81, 81', *Pollex*, or *digitus primus*.
- 82, *Digitus secundus*, or *Index*.
- 83, *D. tertius*, or *Medius*.
- 84, *D. quartus*, or *Annularis*.
- 85, *D. Minimus*.
- 86, 86', *Lig. commune superphalangiale superficiale digitorum*, (Str.-Dur.).
- 87, 87', Elastic branches of *Lig. commune superphalangiale profundum digitorum*, (Str.-Dur.).
- 88, 88', Elastic branches of *M. flexor sublimis* (perforatus).
- 89, Tendon of *M. flexor profundus perforans*.
- 90, *M. sartorius*.
- 91, The anus. *a*, *M. sphincter* (ani) *externus*.
- 92, *M. sphincter* (ani) *internus*.
a, *M. transversus perinæi*.
- 93, *M. recto-cavernosus*, (Str.-Dur.).
- 94, " *caudo-cavernosus*, (Str.-Dur.).
- 95, " *ischio-cavernosus*.
- 96, *Lig. suspensorium penis*.
- 97, *glans penis*.
- 98, *apon. sacralis*.
- 99, *M. parameralis*, (Str.-Dur.).
- 100, *apon. cruralis*, covering the *M. fascialis*, (Stœmmering).
- 101, Ischiatic tuberosity, *tuber isehii*.
- 102, *M. curvatus*, (Str.-Dur.).
(" *add. fem. secundus*).
- 103, Small or caudal head of *M. biceps cruris*.
- 104, 104', *M. arcuatus*, (Str.-Dur.),
(*M. add. fem. tertius*).
- 105, 105', *M. semitendinosus*.
- 106, Tendon common to all the extensor muscles of the legs and attached to the Patella.
- 107, *Ossiculum crithoideum externum*, (Str.-Dur.).
- 108, *Lig. femoro-crithoideum externum*, (Str.-Dur.).
- 109, Femoro-tibial capsule.
- 110, Tendon of origin of *M. cnemodactylæus*, (Riolan).
- 111, *Lig. femoro-tibialis latero-externum*, (Str.-Dur.).
- 112, Protuberance of the "greater Trochanter".
- 113, "Fascia lata" aponeurosis, or second sheet of the *apon. cruralis*.
- 114, Head of *Tibia*.
- 115, *M. gastrocnemius* (*externus*), (Str.-Dur.);
a, tendon of third origin;
b, tendon of second origin;
c, head of first origin.
- 116', First sheet of the *apon. tibialis superficialis*;
- 117, third sheet of the *apon. tibialis superficialis* arising upon the tendon of *M. semitendinosus*;
- 118', second sheet of same.
- 119', *M. gastrocnemius* (*internus*), (Str.-Dur.).
- 120, 120', Tendon of *M. fusiformis*, (Str.-Dur.), (*plantaris*, (Anthr.)).
- 121, *M. soleus*.
- 122, 123', 125', 126, 127, 129, *apon. tibialis profundus*, (Str.-Dur.).
- 125, Sheath of *M. perodactyleus*, (Riolan).

- 124, 124', *Lig. annulare cruris*, (-superius, (Bichat),).
- 126, Sheath of the tendon of *M. peronæus, primus*, = *M. fibulaus*, (Spiegel).
- 127, Sheath of *Mm. peronæus secundus* and *tertius*, (*Mm. peronæus* and *fibulinus*, (Str.-Dur.).
- 128, *apon. tibialis profundus* covering the tibio-tarsal capsule.
- 129, Sheath of *M. flexor longus hallucis* and *M. tibialis posticus*.
- 130, The *malleolus externus*.
- 131, 131', *Lig. annulare anterius calcis*, (Str.-Dur.).
- 132, *Lig. arcuatum laterale externi malleoli*, (Str.-Dur.).
- 133, *Lig. arcuatum posterius externi malleoli*, (Str.-Dur.).
- 134, 134', *Frenulum* of the *M. fusiformis*, (Str.-Dur.).
- 135, *Lig.* and *M. calcaneo-v. digiti* (pedis), (Str.-Dur.).
- 136, 136', Margin of *M. flexor brevis digitorum pedis perforatus*.
- 137, *Lig. annulare externum calcis*, (Str.-Dur.).
- 138, *O. metatarsale quintum*, or *O. v. metarsale*, *a*, its extremity.
- 139, *M. cnemodactylæus*, (Riolan).
- 140, *Lig. fibulo-calcaneum latero externum*, (Str.-Dur.).
- 141, Tendon of the *M. peronæus primus*.
- 142, Tendon of *M. peronæus secundus*.
- 143, *Lig. arcuatum posterius externi malleoli*, (Str.-Dur.).
- 144, *Lig. tibio-calcaneum latero-internum superficiale*, (Str.-Dur.).
- 145, Tendon of *M. perodactylæus*, (Riolan).
- 146, Tendon of *M. tibialis anticus*.
- 147, *M. pedicus*.
- 148, A ligamentous fasciculus of the *apon. pedalis*, attached to the *malleolus internus*;
- 149, a second fasciculus, inserted upon the *O. naviculare* and *O. cuneiforme primum*,
- 150, a third fasciculus, attached to the *O. cuneiforme primum*.
- 151, Rudiment of *O. metatarsale primum*, (or *O. i. metatarsale*).
- 152, *O. metatarsale secundum*, or *O. ii. metatarsale*.
- 153, Tendon of *M. peronæus tertius*.
- 154, *M. adductor longus digiti secundi pedis*, (Str.-Dur.).
- 155, A tendon of the common extensor of the toes, *M. cnemodactylæus*, (Riolan), running to the second digit (*digitus secundus pedis*).
- 156, *M. abductor medius minimi digiti pedis*, (Str.-Dur.).
- 157, *M. abd. brevis min. dig. ped.* (Str.-Dur.).
- 158, *Lig. plantare commune digitorum pedis*, (Str.-Dur.), branches of, running to the fifth toe.
- 159, 159', *Lig. sub-phalangiale superficiale commune digitorum pedis*, (Str.-Dur.), and its elastic branches.
- 160, 160', Elastic branches of the *Ligs. sub-phalang. profundi com. dig. ped.* (Str.-Dur.).
- 161, 161', Elastic branches of the *Ligs. plantare com. dig. ped.* (Str.-Dur.).
- 162, Second toe,—*secundus digitus pedis*,
- 163, third toe,
- 164, fourth toe,
- 165, fifth toe.
- 166, The "*Pelote*", or pad, opened.
- 167, Tuberosities of the third phalanx of the pedal digits.

Plate IV.

Third layer of Muscles.

- 1, Cartilages of the nose.
- 2, *O. pre-maxillare*.
- 3, *O. nasale*.
- 4, *O. maxillare*.
- 5, Fibro-adipous pad of the lip.
- 6, *M. caninus*, (Chaus.).
- 7, 7', Profond part of *M. orbicularis oris*.
- 8, *M.-buccinator*.
- 9, Mandible, *O. "maxillare inferius"*.
- 10, Ball of the eye ;
 a, the Cornea ; *b*, the Iris ;
 c, the Sclerotic.
- 11, *Lig. trochleare*, (or pulley for the *M. obliquus superior*).
- 12, *M. levator palpebræ (superioris)*.
- 13, " *rectus externus*.
- 14, Lacrymal canal, (*can. lacrymalis*).
- 15, *O. malare*.
- 16, *for. infra-orbitale*.
- 17, *Cartilago scutiformis*, (Cuv.).
- 18, *M. supercilio-scutæus*,-(*M. surcilio-scutien*.) (Str.-Dur.)).
- 19, *Lig. fronto-malare*.
- 20, *apon. preauricularis*, (Str.-Dur.).
- 21, 21', *M. temporo-antitragæus*, (Str.-Dur.) ; *a*, its tendonous intersection.
- 22, *M. temporalis*.
- 23, *p. zygomaticus*.
- 24, First head of the *M. masseter*.
- 25, *M. maxillo-auricularis*, (Str.-Dur.).
- 26, Inferior part of the " *cornet* " of the ear, (Str.-Dur.).
- 26', Superior piece of the " *cornet*," (Str.-Dur.).
- 27, The " *conque* " of the ear, (Str.-Dur.).
- 28, *antitragus*.
- 29, *auricula*, or representative of the " *helix* " of the human ear.
- 30, The " *oreillon* ", (Str.-Dur.).
- 31, 31', Opening of the *auricula*.
- 32, The *lobulus*, (lobe of the ear).
- 33, The *occipital crest*.
- 34, *Lig. stylo-maxillare*.
- 35, 35', *M. digastricus* ;
 a, its tendonous intersection.
- 36, *M. stylo-glossus*.
- 37, " *stylo-hyoideus*.
- 38, *Lambdoid and occipital crests* prolonged as far as the *p. styloides*.
- 39, *M. lambdo-conchæus*, (Str.-Dur.).
- 40, " *occipito-scapularis*, (Str.-Dur.).
- 41, *p. styloides*.
- 42, *M. genio-pharyngeus*, (Winslow).
- 43, " *mylo-hyoideus*.
- 44, Laryngeal horn of the hyoid apparatus.
- 45, *M. "sterno-hyoideus"*.
- 46, " *"sterno-thyroideus"*.
- 47, " *hyopharyngeus*.
- 48, " *constrictor pharyngis inferior*.
- 49, *Cartilago thyroides*.
- 50, *M. splenius*.
- 51, *Cartilago cricoidea*.
- 52, *M. trachelo-mastoideus*, (Douglass).
- 53, " *cleido-mastoideus*, (Albinus ?).
- 54, " *transverso-scapularis*, (Schreger).
- 55, " *rhomboideus*.
- 56, 57, *M. supraspinatus* ;
 ab, insertion, upon the superficial aponeurosis of this muscle, of the tendon of the *M. dorso-cucullaris*, (Str.-Dur.) ; *d* tendon of *M. supraspinatus*.

- 58, *M. infraspinatus* ;
a, its terminal tendon.
- 59, *M. teres minor*.
- 60, " *teres major*.
- 61, Left "clavicle"—(*O. clavícula*).
- 61', Right "clavicle."
- 62, Cartilage of the first Rib, or (*costa*)
- 63, Extremity of the *Sternum*.
- 64, Right *Humerus* ;
b', the "lesser" (*Trochanter* ; or)
tuberosity.
c', the "bicipital arch."
- 65, A portion of the *M. triceps* (*externus*), (*Str.-Dur.*).
- 66, *M. triceps* (*medius*), (*Str.-Dur.*).
- 67, " *anconeus medius*, (*Str.-Dur.*).
- a*, second head.
- 68', *M. biceps* (*brachialis*).
- 69, origin of *M. supinator longus*.
- 70, 70', *M. sterno-brachialis*, *W.*, *sterno-trochiterin*, (*Str.-Dur.*).
- 71', *M. pectoralis latus*, (*Str.-Dur.*).
- 72, 72', *M. pectoralis magnus*, (*Str.-Dur.*).
- 73, 73', 73'', *M. serratus magnus*.
- 74, *M. serratus parvus posterior*, (*Str.-Dur.*).
- 75, *M. serratus parvus posterior* (*accessorius*), (*Str.-Dur.*).
- 76, *M. obliquus internus abdominis*.
- 77, Second sheet of the *apon. spinalis* formed by the union of the tendons of *Mm. serratus parvus anterior*, and—*posterior* and—*obliquus internus abdominis* ;
- 77', its sacral portion, cut to show the *Mm. fascialis* (151) and *gluteus*, (*Str.-Dur.*), (148) ;
- 77'', its caudal portion, or *apon. caudalis*.
- 78, *M. obliquus externus abdominis*.
- 78', its terminal tendon.
- 79, *M. anconæus externus*, (*Str.-Dur.*).
- 80, *Deltoid ridge* of the left *O. humeri* ;
b, the greater tuberosity.
- 81, 81', The Elbow.
- 82, 82', *M. brachialis* (*anterior*).
- 83', *M. triceps* (*-internus*), (*Str.-Dur.*).
- 84', " *anconæus medius*, (*Str.-Dur.*).
- 85', " *anconæus internus*, (*Str.-Dur.*).
- 86', *O. humeri*.
- 87', *M.-pronator radii teres*.
- 88, " *palmaris longus*. (*-cercialis*), (*Str.-Dur.*).
- 89, *M. flexor sublimis* (*perforatus*).
- 90, " *extensor proprius tertii digiti*, (*Str.-Dur.*).
- 91, 91', *M.-extensor communis digitorum*.
- 92, 92', *M.-extensor proprius quarti digiti*, (*Str.-Dur.*).
- 93, *M. extensor proprius quinti digiti*, (*Str.-Dur.*).
- 94, *M. cubitalis*, (*Str.-Dur.*) ; (*ulnaris externus*).
- 95, *M. flexor profundus perforans*.
- 96, 96', tendon of the *M. radialis* (*externus secundus*), (*Winslow*).
- 97, 97', tendon of *M. radialis* (*externus*) *primus*.
- 98, 98', *M. adductor longus pollicis*, (*S.-D.*).
- 99, *M. flexor profundus* (*perforans*).
- 100, "Hypothenar" eminence, (*Str.-D.*),
a, origin of *Lig. hypothenate-III, IV-V metacarpale*, (*St.-D.*).
- 100', *ac*, *Lig. phaco-hypothenateum*, (*S.-D.*) ; and *Lig. scapho-hypothenateum*, (*S.-D.*) blended with the preceding (*ac*) ; *b*, a strengthening fasciculus of the *apon. antebrachialis*.
- 101, 101', *Lig. armillare anterius*, (*S.-D.*) ; *a*, *p. styloideus* (*ulnæ*).

- 102, 102', **Lig. armillare posterius**, (Lind. ; S.-D.).
- 103, **Lig. ulno-hypothenateum**, (Str.-D.) and the superficial frænum of the tendon of the **M. ulnaris**, (S.-D.) blended.
- 104, **M.-abductor medius quinti digiti**, (Str.-Dur.).
- 105, 105', Tendon of **M.-"extensor proprius pollicis."**
- 106, **M. abductor brevis quinti digiti**, (S.-D.).
- 108, Tendon of **M.-extensor proprius indicis** (or **M. indicator**,) (Arantius).
- 109, **O. I. metacarpale**.
- 110, **Lig. trapeze-II. metacarpale dorsale**, (S.-D.).
- 111, **Lig. I. metacarpo-sesamoideum internum**, (S.-D.).
- 112, **Osc. sesamoideum internum (pollicis)**, (S.-D.).
- 113, **Lig. annulare sesamoideum pollicis**, (S.-D.).
- 114, **Lig. sesamo-phalangeum pollicis internum**, (S.-D.).
- 115, **O. primi phalangis pollicis**.
- 116, Tendon of **M. profundus pollicis**, (S.-D.).
- 117, 117', **O. secundi phalangis pollicis**,
- 118, **Lig. interphalangiale internum pollicis**, (S.-D.).
- 119, 119', Claw of pollex.
- 120, **M. adductor longus secundi digiti**, (S.-D.).
- 121, **O. primi phalangis digiti secundi**.
- 122, 122', External and internal Fræna of the tendons of the **extensors communes** and **proprii digitorum**.
- 123, **Ligs. annulares sesamoideorum**.
- 124, Enlargement of the extensor tendons of the digits upon the first interphalangeal articulation.
- 125, **Lig. annulare subphalangiale primum**, (Str.-Dur.).
- 126, 126', Elastic branch of **M. flexor sublimis (perforatus)**.
- 127, The "**Pelote**" laid open.
- 128, 128', The tendon of **M. flexor profundus (perforatus)**.
- 129, **Lig. elastico-extensum medium tertii phalangis**, (S.-D.).
- 130, **O. tertii phalangis**, or "**ungual phalanx**," with its claw.
a. **Ligs. secundo-interphalangiale internum** and **externum**, (S.-D.).
- 131, **Mm. "plagio-antobliqui caudæ,"** (Str.-Dur.), of which the tendons unite to form the band 77".
- 132, **Mm. super-intertransversares longi-caudæ**, (S.-D.).
- 133, **Mm. infra-transversares medii**, (S.-D.).
- 134, **Mm. infra-plagio-transversares longi**, (S.-D.), and **plagio-mammillares longi**, (S.-D.). All these caudal muscles covered by the **apon. spinalis**.
- 135, **M. pubis-caudalis**, (S.-D.).
- 136, Posterior extremity of **M. caudo-rectalis**, (S.-D.).
- 137, **M. ilio-caudalis**, (S.-D.).
- 138, The anus.
- 139, **M. ischio-cavernosus**.
- 140, "**sphincter internus (ani)**,
a. orifice of **glandula analis**.
- 141, **M. obturatorius internus**,
- 142, "**transversus perinæi**."
- 143, **Lig. suspensorium penis**.
- 144, **M. caudo-cavernosus**, (S.-D.).
- 145, "**recto-cavernosus**, (S.-D.).
- 146, The penis, with the prepuce removed.
- 147, **Glans penis**.
- 148, **M.-sartorius** ;
a. its terminal tendon.

- 149, *M. ischio-caudalis*, (S.-D.).
- 150, Protuberance of the antero-superior spine of the "Ilium."
- 151, *M. fascialis*, (Soemmering).
- 152, The anterior portion of the *apon. cruralis* cut.
- 153, The "*fascia lata*," or tendon of the *M. fascialis*, the second sheet of the *apon. cruralis*.
- 154, *M. quadratus (femoris)*.
- 155, " *curvatus*, (S.-D.).
- 156, 156', *M. arcuatus*, (Str.-Dur.);
a, ischiatic tuberosity;
- 157, portion inserted upon the Tibia.
- 158, the right *M. semitendinosus*;
a, its terminal tendon.
- 159, *Lig. tibio-fibulare super-posterius*, (S.-D.).
- 160, *Osc. poplitæum*, (S.-D.).
- 161, *Lig. femoro-poplitæum*, (S.-D.).
- 162, " *patella-crithoideum externum* (S.-D.).
- 163, *Lig. femoro-crithoideum externum*, (S.-D.).
- 164, *Osc. crithoideum externum*. (Str.-Dur.).
- 165, Inferior portion of the first sheet of the *apon. cruralis* covering the *Patella* and the *Lig. patellæ*.
- 166, *Lig. femoro fibulare latero-externum*, (S.-D.).
- 167, *Lig. tibio-fibulare supra-anterius*, (S.-D.).
- 168, Tendon of origin of *M. cnemodactylæus*, (Riolan).
- 169, Femoro-tibial capsule.
- 170, First origin of the *M. gastrocnemæus externus*;
- 171, fourth head of the same.
- 172, *M. poplitæus*.
- 173, 173', *M. peronæus tertius*.
- 174, 174', *M. soleus*.
- 175, 175', " *fusiformis*, (S.-D.) (*M. plant. gracil.* (anthrp.);
a, its tendon above the Heel.
- 176, 176', *M. gastrocnemius (internus*, (S.-D.)).
- 177, 177', *M. peronæus secundus*.
- 178, 178', " *tibialis anticus*.
- 179, 179', " *perodactylæus*, (Riolan).
- 180', *O.-Tibia*.
- 181, 181', *M. tibialis posticus*.
- 182', *M.-flexor proprius hallucis*, (S.-D.).
- 184, 184', *Lig. annulare cruris (superius*, (Richat).
- 185, *Frænum externum* of the *M. fusiformis*.
- 186, *Frænum internum* of the *M. fusiformis*.
- 187, *O.-Tibia*.
- 188, *M. cnemodactylæus*, (Riolan).
- 189, " *peronæus primus*.
- 190, Tibio-tarsal capsule.
- 191, " *Malleolus externus*."
- 192, *Lig. arcuatum laterale (externi malleoli)*, (S.-D.).
- 193, 193, *Lig. annulare anterius (calcis)*, (S.-D.).
- 194, *Lig. tibio-astragaleum laterale*, (S.-D.).
- 195, *Lig. annulare externum (calcis)*, (S.-D.).
- 196, *Lig. arcuatum-posterius (externi malleoli)*, (S.-D.).
- 197, *Lig. fibulo-calcaneum posterius*, (S.-D.).
- 198, *Lig. fibulo-calcaneum-latero-externum*, (S.-D.).
- 199, *O. calcis*.
- 200, *Lig. or M. calcaneo-V metatarsalis plantaris*, (S.-D.).
- 201, Edge of *M. perodactylæus*, (Riolan).

- 202, Fifth metatarsale. (*Os quintum metatarsale*);
a, its tip.
- 203, *M. abductor brevis quinti digiti (pedis)*, (S.-D.).
- 204, The branch of the *Lig. plantare commune digitorum* which runs to the *digitus minimus pedis*.
- 205, 206, 207, *M. pedicus*, (S.-D.);
- 205, 205', internal head attached to the *Lig. annulare anterius calcis*;
- 206, second head;
- 207, third head attached to the *calcis*.
- 211, *M. abductor medius quinti digiti (pedis)*, (S.-D.).
- 214, *Tibio-tarsal capsule*.
- 215, *Lig. arcuatum anterius interni malleoli*, (S.-D.).
- 216, *Lig. arcuatum perodactyleii*, (S.-D.).
- 217, *Lig. arcuatum astragaleum plantare*, (S.-D.).
- 218, *Frænum* of the tendon of the extensors, long abductors and abductors of the toes.
- 219, *Lig. tibio-calcaneum latero-internum superficiale*, (S.-D.).
- 220, Tendon of the *M. perodactylæus*, (Riolan), at the beginning of the groove.
- 220', The internal edge of the same tendon.
- 221, *Frænum* of the *M. flexor brevis digitorum pedis (perforatus)*,
- 222, Bones of the *Tarsus*.
- 223, *M. flexor brevis digitorum pedis (perforatus)*,
a, b, c, d, its four divisions.
- 224, *O. cuneiforme primum*.
- 225, Rudiment of *O. primum metatarsale*.
- 226, *Lig. I-II metatarsale dorsale*, (S.-D.).
- 227, *M. adductor medius secundi digiti (pedis)*, (S.-D.).
- 228, *adductor longus sec. dig. ped.* (S.-D.).
- 229, *Os. secundum metatarsale*.
- 230, " *tertium* " "
- 231, Cartilaginous granule contained in the first interphalangeal capsule.
- 232, Enlargement of the tendon of the extensors, adductors and abductors of the toes covering the second interphalangeal articulations.
- 233, Extremity of the tendon of the *M. cnemodactylæus*, (Riolan) attached to a tertiary (or ungual) phalanx.
- 234, *Lig. annulare sesamoidei*.
- 235, *Ossa primi phalangis*.
- 236, *Lig. annulare subphalangiale primum*.
- 237, Elastic branch of the *Lig. plantare commune digitorum pedis*, (Str.-Dur.)'.

Plate V.

FIG. I. *Fourth layer of Muscles.*

- 1, *O. nasale*.
- 2, " *premaxillare*.
- 3, " *maxillare (superius)*.
- 4, " *malare*.
- 5, *p. postorbitalis (frontis)*.
- 6, 7, Globe of the eye ;
- 6, the " *sclerotic* ",
- 7, the " *cornea* ",
- 8, *Lig. trochlare*.
- 9, *M. rectus superior*.
- 10, *Lig. fronto-malare*.
- 11, Lower jaw, Mandible.
 a, f, mentale.
- 12, *C. scutiformis*, (Cuv.) ;
 a, its anterior extremity ;
 b, *Lig. scuto-antilobulare*, (S.-D.).
 c, " *scuto-auriculare*, (S.-D.).
 d, *M. scuto-antilobularis*. (S.-D.).
- 13, Second head of *M. masseter*
- 14, *p. zygomaticus (squamosi)* ;
 a, its posterior root ;
 b, *Lig. capsulare mandibulæ*, (Weitbrecht).
- 15, 15', *apon. temporalis*, and *M. temporalis* ;
- 15', second head of latter.
- 16, Lambdoid and occipital crests, and terminal tendon of the *M. splenius*.
- 17, Upper part of the cephalic branch of the hyoid apparatus,
- 18, *Lig. stylo-maxillare*.
- 19, " *stylo zygomaticum*, (Str.-Dur.).
- 20, The cartilaginous portion of the " *canalis anditorius-externus*."
- 21, *M. pterygoideus*.
- 22, " *stylo-glossus*.
- 23, *M. glosso-pharyngæus*,
- 24, " *genio-pharyngæus*, (Winslow).
- 25, " *mylo-hyoideus*.
- 26, " *jugulo-hyoideus*, (S.-D.) W.
- 27, " *hyopharyngeus*.
- 28, Laryngial, "posterior" horn of hyoid apparatus.
- 29, *M. constrictor pharyngis inferior*.
- 30, *M. rectus capitis anticus major*,
- 31, " *sterno-hyoideus*.
- 32, " *sterno-thyroideus*.
- 33, A portion of the *Œsophagus*.
- 34, *C. thyroidea*.
- 35, " *cricoidea*.
- 36, *M. rectus capitis lateralis*.
- 37, *p. transversus* of the atlas,
- 38, *M. splenius*.
- 39, *Mm. plagio-antobliquio* (Str.-Dur.) *cervicis*.
- 40, *M. isosceles primus*, (S.-D.).
- 41, " *scalenus primus*, (S.-D.).
- 42, " " *secundus*, (S.-D.).
- 43, " " *sextus*, (S.-D.).
- 44, *Mm. scaleni quartus et quintus*, (S.-D.).
- 45, *M. scalenus septus*, (S.-D.).
 a, b, c, d, origins of the latter upon the ribs.
- 46, *M. sterno-costalis exterior*, (Str.-Dur.).
- 47, The " *Presternum* " ;
- 48, other pieces of the " *Sternum* ",
- 49, the " *Presternum* ".
- 50, The first two costal cartilages.
- 51, *Mm. intercostales interni*.
- 52, *M. rectus abdominis* ;
- 52', its terminal tendon ; *a* its raphes.

- 53, Second sheet of the *apon. spinalis superficialis*, formed by the union of the terminal tendons of the several bundles of
- 55, *M. serratus parvus anterior*, (S.-D.), of
- 56, *M. serratus parvus posterior* (S.-D.), of
- 57, the *accessorius* (S.-D.) of the latter, and of
- 58, the *M. obliquus internus abdominis*.
- 54', Continuation of the above sheet upon
- 54'', its prolongation upon the tail.
- 59, The *M. serratus magnus*.
- 60, The Ribs, (*costæ*);
- 60', their cartilages.
- 61, The false Ribs, 61', their cartilages.
- 62, *Mm. intercostales externi*.
- 63, *M. gastrocnemius* (anterior, (S.-D.).
- 64, " *ischio-caudalis*, (S.-D.).
- 65, " *pubio-caudalis*, (S.-D.).
- 66, " *sphincter internus* (ani).
a, *M. transversus perinæi* cut.
- 67, Caudal portion of *M. sphincter externus* (ani).
- 68, *M. sphincter externus* (ani).
- 69, " *constrictor vulvæ*.
- 70, anus.
- 71, vulva.
- 72, *Mm. subvertebrales*, (S.-D.), (*caudæ*),
- 73, *M. ilio-caudalis*, (S.-D.).
- 74, *tuber ischii*.
- 75, *M. ilianus*, (Str.-Dur.).
- 76, " *obturator internus*.
- 77, " *gastrocnemius* (posterior, (S.-D.)).
- 78, " *quadratus* (*femoris*).
- 79, insertion of *M. coxalis*, (Str.-Dur.).
- 80, *M. vastus-externus*.
- 81, *M. curvatus*, (S.-D.).
- 82, *M. semimenbranosus*.
- 83, Tendon of the *Mm. sartorius* and *gracilis* cut.
- 84, *Lig. femoro-crithoideum externum*, (S.-D.).
- 85, *Osc. crithoideum externum*, (S.-D.).
- 86, *Lig. patella-crithoideum externum*.
- 87, *Osc. poplitæum*, (S.-D.).
- 88, *Lig. tibio-fibulare supra-anterius*, (S.-D.).
- 89, Femoro-tibial capsule.
- 90, *Lig. femoro-fibulare latero-externum*, (S.-D.).
- 91, *Lig. tibio-fibulare supra-posterius* (S.-D.).
- 92, Head of *O. fibula*.
- 93, *M. poplitæus*.
- 94, 95, *O. tibia*; a, its angle.
- 96, 96', *M. cnemodactyleus*, (Riolan);
a, its tendon of origin.
- 97, 97', *M. peronæus tertius*.
- 98, *M. perodactyleus*, (Riolan).
- 99, The *O. tibia*.
- 100, *Lig. annulare cruris*.
- 101, " *tibio-fibulare infra-anterius*, (S.-D.).
- 102, 102', *M. peronæus secundus*.
- 103, *O. fibula*.
- 104, " *malleolus externus*".
- 105, The "tuber calcis".
- 106, *M. calcaneo-V. metatarsale plantare*, (S.-D.).
- 107, Tibio-tarsal capsule.
- 108, *Lig. fibulo-calcaneum posterius*, (S.-D.).
- 109, *Lig. annulare anterius calcis*.
- 110, " *annulare externum calcis*, (S.-D.).
- 111, *O. secundum metatarsale* (in composition, -II. metatarsale).

- | | |
|---|--|
| <p>112, <i>O. tertium metatarsale</i> (in composition, III. metatarsale).</p> <p>113, 113', 113'', M. pedicus.</p> <p>114, <i>Os quartum metatarsale</i>, (-IV. metatarsale).</p> <p>115, <i>Os quintum metatarsale</i>, (-V. metatarsale), <i>a</i>, its tip.</p> <p>116, M. abductor medius quinti digiti (pedis); (S.-D.); <i>a</i>, the two terminal branches of its tendon.</p> | <p>117, M. abductor brevis quinti digiti (ped.), (S.-D.).</p> <p>118, Enlargement of the tendon of the M. cnemodactylæus, (Riolan) cut, covering the first interphalangeal articulation where the tendon of M. peronæus tertius terminates;</p> <p>119, similar Enlargements for the third and the fourth digits.</p> <p>120, Terminal part of the tendons of the M. cnemodactylæus, (Riolan).</p> |
|---|--|

FIG. 2. *The right ear seen from the inner side.*

- | | |
|--|--|
| <p>1, Inferior opening of the "cornet;"
<i>a</i>, the 'tongue' of the first piece 2.</p> <p>3, Lig. stylo-cornetæum, (S.-D.).</p> <p>4, Second piece of the "cornet."</p> <p>5, M. corneto-conchæus, (Str.-Dur.).</p> <p>6, The "conque," (Str.-Dur.).</p> <p>7, superior posterior part of same.</p> <p>8, M. concho-antilobularis internus, (S.-D.).</p> <p>9, Lig. corneto-antilobulare, (S.-D.).</p> <p>10, M. corneto-antilabularis anterior, (S.-D.).</p> <p>11, M. temporo antitragæus, (S.-D.).</p> <p>12, The antilobulus.</p> <p>13, M. lambdo-conchæus, (S.-D.).</p> | <p>14, M. scuto-concæus, (S.-D.).</p> <p>15, " maxillo auricularis, (S.-D.).</p> <p>16, " antitrigo-antilobularis, (S.-D.).</p> <p>17, " concho-auricularis anterior, (S.-D.).</p> <p>18, M. scuto-antilobularis, (S.-D.).</p> <p>19, Groove corresponding to the "antihe-
lix."</p> <p>20, Lig. scuto-auricularis, (S.-D.).</p> <p>21, M. concho-auricularis internus, (S.-D.).</p> <p>22, The (extremity of the) auricula,—
"pavillion" (S.-D.).
<i>a</i>, its infra-internal angle.</p> |
|--|--|

FIG. 3. *The Head, superior view: the left side showing the first layer of muscles: the right side the second layer.*

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|---|---|
| <p>1, The tip of the nose.</p> <p>2, M. elevator labii superioris proprius.</p> <p>3, M. myrtiliformis, (Santorini)</p> <p>4, Fibro-adipous pad.</p> <p>5, M. orbicularis oris.</p> <p>6, " zygomaticus minor.</p> <p>7, Puncta lacrymalia.</p> <p>8, M. frontalis.</p> | <p>8', M. pyramidalis-nasi, the nasal head of the M. levator labii superioris alæque nasi.</p> <p>9, (M. rhinæus, (Cowper), or) M. levator labii superioris alæque nasi.</p> <p>10, The cornea of the eye.</p> <p>11, Inferior part of M. orbicularis palpebrarum.</p> |
|---|---|

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|--|---|
| 12, Superior part of M. orbicularis palpebrarum .
13, Orbital arch of the O. frontis .
14, M. temporo-antitrageus , (S.-D.).
15, " cervico-facialis , (S.-D.).
16, " superciliaris .
<i>a</i> , bulbs of the hairs of the eyebrow.
17, The auricula turned back upon its side.
18, M. fronto-auricularis , (S.-D.).
19, " temporo-auricularis , (S.-D.).
20, " interscutæus , (S.-D.).
21, Framework of the C. scutiformis , (Cuv.?).
22, Internal bundle of M. fronto-auri- | cularis , (S.-D.) continuous with the M. levator labii superioris alæque nasi .
23, apon-epicranianum (S.-D.).
24, M. occipitalis .
25, " occipito-scutæus , (S.-D.).
26, " sub-cervico-auricularis , (S.-D.).
27, " concho-auricularis internus , (S.-D.).
28, M. sagitto-auricularis , (S.-D.).
29, Mm. labio-auricularis et submaxillo-auricularis , (S.-D.).
30, M. occipito-auricularis , (S.-D.).
31, " supercilio-scutæus , (S.-D.).
32, Lig. fronto-malare , (S.-D.). |
|--|---|

FIG. 4. *Transverse Section of the Tongue, (Lingua, or glossa), at its anterior part.*

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|---|---|
| 1, C. lingualis , (S.-D.).
2, Fibre of the M. lingualis transversus , (Gerdy). | 4, Fibre of the M. lingualis verticalis , (Gerdy). |
|---|---|

FIG. 5. *Transverse Section of the Tongue near the middle.*

- | | |
|---|---|
| 1, Mm. genio-glossi .
2, M. lingualis transversus , (Gerdy).
3, median raphe of the Tongue. | 4, M. lingualis verticalis , (Gerdy).
5, The M. stylo-glossus cut. |
|---|---|

FIG. 6. *Transverse Section of Tongue near the posterior end.*

- | | |
|--|---|
| 1, A portion of the M. genio-glossus .
2, Fibres of the M. lingualis transversus , (S.-D.).
3, Median raphe of the Tongue. | 4, Fibres of the M. lingualis verticalis , (S.-D.).
5, M. stylo-glossus cut. |
|--|---|

FIG. 7. *The Tongue (Lingua) seen from above; the right side covered by the integuments with its numerous horny hooked papillæ.*

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|---|--|
| 1, <i>a</i> , " cryptæ mucosæ ."
2, M. lingualis longitudinalis superficialis .
3, M. lingualis longitudinalis lateralis . | 4, Mm. stylo-glossi .
5, M. hyoglossus .
6, " glosso epiglotticus . |
|---|--|

FIG. 8. *The under side of the Tongue deprived of its integuments.*

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|---|---|
| 1, Portions of the two Mm. genio-glossi .
2, The M. lingualis lateralis intersected by the fibres of M. lingualis verticalis , (S.-D.). | 3, M. stylo-glossus likewise intersected by the latter muscle.
4, M. hyoglossus .
5, " glosso-epiglotticus . |
|---|---|

FIG. 9. *The Larynx, posterior view.*

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|---|---|
| 1, The extremities of the laryngeal branches of the hyoid apparatus.
2, Epiglottis .
3, Lig. thyro-arytænoidæum externum , (S.-D.).
4, Lig. thyro-arytænoidæum internum .
5, Left C. arytænoidæa .
6, M. interarytænoidæus , (S.-D.). | 7, Interval between the Cc. arytænoidææ forming the posterior part of the Glottis .
8, M. crico-arytænoidæus posterior .
9, Mucous membrane—(<i>membrana mucosa</i>) overlying the right half of the Larynx .
10, A portion of the Trachea ;
<i>ab</i> , the cartilaginous arch at its orifice; <i>c</i> , membranous band which unites them behind. |
|---|---|

Plate VI.

FIG. I.

- | | |
|---|--|
| 1 Nasal bone, O. nasale .
2, ("labial"), premaxillary, O. premaxillare .
3, Maxillary, O. maxillare (superius) .
<i>a</i> , infraorbitale .
4, malar bone, O. malare .
<i>a</i> , p. frontalis .
<i>b</i> , p. zygomaticus .
5, frontal bone, O. frontis .
<i>a</i> , p. angularis .
6, Lig. trochleare .
7, Ball of the eye;
<i>b</i> , sclerotic ;
<i>c</i> , iris ;
<i>d</i> , cornea .
8, O. parietale ,—parietal bone.
9, M. temporalis , third head of. | 10, M. obliquus superior oculi ;
<i>a</i> , tendon of above reflected in its pulley 6.
11, M. rectus superior .
12, " rectus externus .
13, " masseter , 3 head of.
14, Mandibula ,—mandible, or lower jaw.
<i>a</i> , f. mentale ,—mental foramen.
<i>b</i> , condyle .
<i>c</i> , p. angularis ,—"angle."
14, p. coronoidæus ,—coronoid process.
15, p. zygomaticus .
16, O. tympanicum ,—tympanic bone.
<i>a</i> , membrana tympani and the "manubrium mallei."
<i>b</i> , Lig. stylo-maxillare . |
|---|--|

- 17, **M. stylo-glossus.**
- 18, Superior part of the cephalic horn of the hyoid apparatus.
- 19, **O. mastoideum, (S.-D.).**
- 20, The hyoid apparatus and its laryngial horn.
- 21, **M. glosso-pharyngeus.**
- 22, " **genio-pharyngeus, (Winslow).**
- 23, " **hyo-glossus.**
- 24, " **genio-hyoideus.**
- 25, " **hyo-pharyngeus.**
- 26, " **constrictor pharyngeus inferior.**
- 27, **membrana hyo-thyroidea.**
- 28, **M. thyro-hyoideus.**
- 29, Thyroid cartilage,—**C. thyroidea.**
- 30, **M. crico-thyroideus.**
- 31, Superior part of the **Trachea.**
- 32, **M. sterno-thyroideus.**
- 33, Upper part of **æso-phagus.**
- 34, The tongue,—(**lingua glossa**).
- 35, **M. genio-glossus.**
- 36, " **pterygoideus internus.**
- 37, Exterior part of **O. petrosum.**
- 38, **lamboïd crest** and its prolongation.
- 39, Posterior angle of **p. transversus** of atlas.
- 40, 41, 42, 43, 44, summits **pp. transversi** of the last five cervical vertebræ.
- 45, **M. rectus capitis anticus major.**
- 46, " " " **lateralis.**
- 47, " **obliquus superior capitis.**
- 48, " **complexus, (S.-D.).**
- 49, " **intersectus, (S.-D.).**
- 50, **M. intertransversaris, (Str.-Dur.).**
- 51, **Mm. isosceles, (S.-D.).**
- 52, ("**Intercostellaires**") (**Str.-Dur.**).
- 53, **M. intertransversaris, (S.-D.).**
- 54, Bodies, or **Centra** of vertebræ.
- 55, Posterior origin of **M. Splenius.**
- 56, Third fold of the **apon. spinalis superficialis.**
- 57, **Mm. plagio-antobliqui, (Str.-Dur.)** (cervicis).
- 58, **M. scalenus tertius, (S.-D.); a, b, c, d, e,** its heads.
- 59, The ribs and false ribs.
- 59', Cartilages of same.
- 60, **Mm. intercostales externi.**
- 61, **M. retrahens (extremæ) costæ (S.-D.).**
- 62, **Mm. intercostales interni.**
- 63, **M. latitudinalis, (P. d'Abano).**
- 64, The **Sternum.**
- 65, **M. rectus abdominalis;**
a, its raphes, b, its terminal tendon.
- 66, **M. caudo-rectalis, (Str.-Dur.).**
- 67, " **ischio-caudalis. (S.-D.).**
- 68, " **ilio-caudalis, (S.-D.).**
- 69, " **pubio-caudalis. (S.-D.).**
- 70, **O.-ilium.**
- 71, " **pubis.**
- 72, " **ischium.**
a, its tuberosity, "**tuber ischii.**"
- 73, **M. coxalis, (S.-D.).**
- 74, " **gemellus-anterior, (Cowper);**
- 75, " **epimeralis, (Str.-Dur.).**
- 76, " **pyriformis, (Spiegel).**
- 77, " **glutæus and parameralis, origin of.**
- 78, " **obturator internus.**
- 79, " **gemellus posterior, (Cowper).**
- 80, " **obturator externus.**
- 81, **O. femoris, or Femur.**
a, greater trochanter,
b, lesser "
- 82, **M. vastus-internus.**
- 83, " **promeralis, (Str.-Dur.).**
- 84, " **cruralis, (S.-D.).**
a, its terminal tendon.
- 85, **M. subcruralis, (Albinus).**
b, its terminal tendon.
- 86, **M. prismaticus, (S.-D.).**

- 87, Section of common tendon of **M. promeralis** 83 and **M. vastus externus**.
- 88, The "patella",—**Osc. patella**.
- 89, Patellan part of fem. tibial capsule,
- 90, **Lig. patello-crithoideum externum**, (S.-D.).
- 91, **Osc. crithoideum externum**, (S.-D.).
- 92, **Lig. femoro-crithoideum externum**, (S.-D.).
- 93, **Lig. tibio-fibulare supra-posterius**, (S.-D.).
- 94, **Osc. poplitæum**, (S.-D.).
- 95, **Lig. femoro-poplitæum**, (S.-D.).
- 96, " **patellæ**
- 97, " **capsulare femoro-tibiale**.
- 98, Tendon of origin of **M. cnemodactylus**, (Riolan).
- 99, **Lig. femoro-tibiale latero-externum**, (S.-D.).
- 100, Epiphysis of the angle of **O.-tibia**.
- 101, **M. gracilis**;
- 102, Aponeurotic expansion which connect this **M.** with 100.
- 103, **M. semimembranosus**,
a, tendon of origin of 103.
b, terminal tendon.
- 104, Attachment of **M. curvatus**, (S.-D.) under the **O. pubis** to the tendon of origin of **M. semimembranosus**.
- 105, **O.-tibia**.
- 106, **O.-fibula**;
a, its superior head,
- 107, **Lig. interosseum tibio-fibulare**.
- 108, " **tibio-fibulare infra anterius**, (S.-D.).
- 109, Neck or groove of "malleolus externus", in which the tendon of **M. peronæus primus** passes.
- 110, Tuberosity of the "malleolus."
- 111, **O. calcis**,
a, tuber calcis,
b, its cuboid process, **p. cuboideus**.
- 112, Pulley of the **O.-astragalus**,
a, **p. naviculare** (astragali).
- 113, **Lig. tibio-calcaneum posterius**, (S.-D.).
- 114, **Lig. astragalo-calcaneum dorsale**, (S.-D.).
- 115, **Lig. annulare-externum calcis**, (S.-D.).
- 116, **Lig. astragalo-naviculare dorsale**, (S.-D.).
- 117, **O. naviculare**.
- 118, **Lig. navo-epitrium dorsale**, (S.-D.).
- 119, **O. epitrium**, (S.-D.). = **O. cuneiforme tertium**.
- 120, **Lig. epitrio-III metatarsale dorsale breve**, (S.-D.).
- 121, **Lig. epitrio-III metatarsale dorsale longum**, (S.-D.).
- 122, **Lig. calcaneo-naviculare dorsale**, (S.-D.).
- 123, **Lig. cubo-V metat. externum**, (S.-D.).
- 124, " **epitrio cuboideum dorsale**, (S.-D.).
- 125, **Lig. calcaneo-cuboideum externum** (S.-D.).
- 126, **Lig. navo-cuboideum dors.**, (S.-D.).
- 127, **O. cuboideum**,
c, canal for the **M. peronæus primus**.
- 128, **Lig. cubo-IV metat. dors.**, (S.-D.).
- 128*, " **cubo-V metat. dors.**, (S.-D.).
- 129, " **capsulare-V metatarso-phalangiale**, (S.-D.).
- 130, **Lig. V metat.-sesamoideum extrn.** (S.-D.).
- 131, **Lig. V metat-phalangiale extrn.**, (S.-D.).
- 132, **Lig. sesamo-phal., externum**, (S.-D.).

- | | |
|--|--|
| <p>133, The outer four Oo. metatarsales,
(-metarsal bones);
a, O. secundum(II) metatarsale.
b, O. III metatarsale.
c, O. IV metatarsale.
d, O. V metatarsale.</p> | <p>134, Lig. interphalangiale (primum) externum digiti pedis, (S.-D.).
135, Primary phalanges of the toes.
136, Lig. interphalangial ext. dig. ped. secundum, (S.-D.).
137, Secondary phalanges.
138, Tertiary “</p> |
|--|--|

FIG. 2. *The Sternum and costal cartilages, with their ligaments and muscles.*

- | | |
|---|---|
| <p>1-8, The bony pieces forming the Sternum.
a, intersternal fibro-cartilages, or fibro-cartilaginee intersternales,
b, Ligs. supra-sternales, (S.-D.).
9, “Ensiform appendix”, -Xiphisternum;
9', its posterior cartilaginous part.</p> | <p>10, a-b, the ten cartilages of the sternal ribs.
11, the cartilage of the asternal ribs.
12, the cartilages of the three false ribs.
13, Ligs. chondro-sternalis superiores, (S.-D.).
14, M. sterno-costalis-interior, (S.-D.).
15, part of the “Diaphragm” cut,</p> |
|---|---|

FIG. 3. *Central part of Diaphragm seen from behind.*

- | | |
|--|--|
| <p>1, The center of the Diaphragm,
2, foramen venæ cavæ giving passage to V. cava.
a, infra-internal edge.
3, opening through which the Œsophagus passes.
4, ‘Leaflets’ or wings,</p> | <p>b, origin of Lig. suspensorium hepatis.
5, Orifice which A-aorta traverses.
6, 7, Left “median pillars”.
8, Right “ “
9, “Lateral pillars”.
10, Tendon common to the “pillars.”</p> |
|--|--|

FIG. 4. *The under side of anterior part of vertebral column, with posterior part of under side of head, and portions of the ribs.*

- | | |
|---|---|
| <p>1, Anterior part, or “transverse root” of the O. squamosum;
a, its “glenoid fossa”.
b, p. zygomaticus.
c, p. postglenoidalis.
d, “longitudinal root”.
2, O. basisphenoideum,
3, its pteral processes, O. alisphenoid-eum,
d, entrance of Eustachian tube.</p> | <p>4, “Auditory bullæ,” generally considered to be a part of O. tympanicum.
a, meatus auditorius externus.
5, e, p. styloides.
b, p. jugularis (S.-D.) (= p. paroccipitalis).
i, f. lacerum posterius.
6, O. basioccipitale.
7, Cephalic head of M. transverso-scapularis (Schreger).</p> |
|---|---|

- | | |
|--|---|
| <p>8, M. rectus capitis anticus major.</p> <p>9, Lig. atlo-capitis anterius superficiale, (S.-D.).</p> <p>10, M. rectus capitis anticus minor.</p> <p>11, M. obliquus capitis superior.</p> <p>12, " rectus capitis lateralis,</p> <p>13, Lateral edge of p. transversus of the atlas.</p> <p>14, Infra-interior edge of same.</p> <p>15-19, the five compound muscles forming the series of M. longus-colli, (anterior; (S.-D.)).</p> <p>15, 1st head inserted upon the atlas ;</p> <p>16, 2d " " " axis ;</p> <p>17, 3d " " " 3d cerv. vert ;</p> <p>18, 4th " " " body of 4th " ;</p> <p>19, 5th " " " 5th " ;</p> <p>19', 6th " " " 6th " ;</p> <p>19'', 7th " " " 6th " .</p> <p>20, 21, and 22, fibrocartilagine intervertebrales between the axis, the 3d, the 4th and the 5th cervical vert.</p> <p>24, 25, and 26, M. scalenus primus.</p> <p>25, Tendon common to M. scalenus primus, (S.-D.) and M. isosceles primus (S.-D.) (27) attached to the atlas.</p> <p>27, M. isosceles primus. (S.-D.).</p> | <p>28, M. isosceles secundus, (S.-D.).</p> <p>30, Centrum ("corps") of the atlas.</p> <p>31, p. antobliquus, (S.-D.) of the axis.</p> <p>32, Vertebrarterial canal of axis.</p> <p>33, 34, and 35, centra of axis and the two following vertebræ.</p> <p>36, 37, 38, 39, summits of the "<i>costil-laires</i>" (Str.-Dur.) processes of 3d, 4th, 5th, and 6th cerv. vert.</p> <p>40, M. scalenus tertius, (S.-D.).</p> <p>41, Mm. isosceles, tertius, quartus and quintus, (S.-D.).</p> <p>42, Centrum of 7th cerv. vert.</p> <p>43, M. accessorius ad longus-colli-inferior, (S.-D.).</p> <p>44, one of the heads of M. longus colli-inferior (S.-D.) formed by the union of the small bundles, 41.</p> <p>45, second head of same,</p> <p>48, portions of the first nine ribs,
<i>a, b, c, d, e, f, g, h, i,</i></p> <p>49, M. longus colli (inferior, (S.-D.).)</p> <p>50, fibro cartilagine intervertebrales (dorsi).</p> <p>51, Lig. infravertebræ (S.-D.).</p> <p>52, Ligs. costo-vertebrales, (Bichat.)</p> |
|--|---|

Plate VII.

FIG. 1. *Sixth Layer of Muscles ; the o. malare has been removed by cutting the p. malaris (maxillaris), and the p. zygomaticus, (squamosi), the mandibula has also been removed.*

- | | |
|---|--|
| <p>1, O. nasale.</p> <p>2, " premaxilare ; a, dentes incisores or Incisives.</p> <p>3, O. maxilare (superius) ;
<i>b, maxillo-frontal suture ;</i></p> | <p><i>c, its tuberosity at the angle of the orbit,</i></p> <p><i>d, suture with p. infraorbitalis (malaris),</i></p> <p><i>e, f. infraorbitale laid open ;</i></p> |
|---|--|

- f*, section of **p. malaris**,
g, posterior tuberosity,
h, **D. caninus**,
i, " **molaris secundus**,
j, " " **tertius**,
k, " **quartus**,
4, **O. lacrymale**.
l, The **can. lacrymalis**.
5, **O. frontis**;
a, its **p. angularis**;
5', its orbital lamina.
6, **O. parietale**.
7, " **Wormianum**.
7', **O. super-occipitale**.
8, " **squamosum**,
a, **p. zygomaticus cut.**
9, **M. obliquus superior oculi**,
a, its reflected tendon.
10, The globe of the eye.
11, **M. rectus superior (oculi)**.
12, " **rectus externus**.
13, " **rectus inferior**.
14, " **obliquus inferior**.
15, " **pterygoideus externus**,—" *Fallopien, (court)*," cut at its insertion into the lower jaw;
16, **M. pterygoideus internus**, also cut at its attachment to that bone.
17, **M. stylo-glossus**.
18, The tongue, (*lingua, glossa*).
19, **M. genio-glossus**, cut at its origin upon the lower jaw.
20, **M. hyoglossus**.
21, Cephalic horn of Hyoid apparatus;
22, body of " " ;
a, Laryngial horn " " ;
23, **C. thyroideas**.
d, **membrana thyrodea**.
24, **M. thyro-cricoides**.
25, Part of the **Trachea**.
26, Part of the **Cesophagus**.
27, **M. hyopharyngeus**.
28, 28', **M. constrictor pharyngis** (inferior, (Albin)).
29, Exterior part of **O. petrosum**;
i, its **p. styloideus** (petrosi).
j, **O. tympanicum**.
l, " **meatus auditorius externus**."
m, **O. mastoideum** " or mastoid part of the "periotic."
n, **Lig. stylo-maxillare**.
30, **M. rectus capitis posticus minor**.
ab, lateral margin of the **p. transversus** of the atlas.
31, **M. rectus capitis posticus medius**, (S.-D.).
32, **M. rectus capitis posticus major**.
33, " **rectus capitis anticus minor**.
34, " **rectus capitis anticus major**.
35, " **obliquus capitis inferior**.
36, inferior heads of **M. rectus capitis anticus major**.
37, **M. plagio-antobliquus**, (S.-D.), running from the atlas to the fifth and sixth vertebræ,
38, 38', those terminating upon the fourth and third vertebræ.
39, **Mm. intertransversales**, running from the atlas to the third vertebra.
40, **centra** of vertebræ.
41, **p. antobliquus** of the third cervical vertebra.
42, **M. antobliquus-spinalis**, (S.-D.).
43, The **p. antobliquus** of the fourth cervical vertebra.
44, 45, 46, 47, 48, extremities of the **pp. transversales** of the last five cervical vertebra.
49, The posterior angle of **p. costellaris**, (S.-D.) of the sixth cervical vertebra.
50, The **Sternum**.
51, **Ribs. (costa-æ)**.

- 52, **Mm. intercostales interini**
 53, " **intercostales**, (S.-D.).
 54, " **isosceles quartus et quintus**, (S.-D.).
 55, **M. scalenus tertius**, (S.-D.).
 56, " **isosceles sextus**, (S.-D.).
 57, The last cervical **M. intertransversaris**, (S.-D.).
 58, **M. interspinalis**.
 59, Frena of the **Mm. spinales dorsi**.
 60, 60', Fourth sheet of the **apon. spinalis superficialis**.
 61, **Mm. plagio-antobliqui**, (S.-D.) ;
a, b, c, d, e, their last five long cervical heads.
 61', Second part of the fourth sheet of the **apon. spinalis superficialis** formed by the blending of the tendons of **M. costo-spinalis**, (S.-D.). and of **M. lumbo-spinalis**, (S.-D.).
 62, First dorsal head of the **Mm. plagio antobliqui**, (S.-D.).
 63, **Mm. epicostales**, (S.-D.).
a, their tendon of origin,
b, those of the **Mm. costo-lumbares**, (S.-D.).
 64, **Mm. lumbo-spinalis**, (S.-D.).
 65, **M. psoas**, (Str.-Dur.). (= **Mm. psoas magnus** and **iliacus** of anthrop, united);
 65', its iliac head.
 66, **Mm. infra-intertransversares longi**, (S.-D.), (**lamborum**).
 67, **O.-ilium**, forming the prominence of the hip.
 68, Prolongation upon the tail of the **apon. spinalis superficialis**.
 69, Prominence of the first **Mm. super-intertransversares**, (S.-D.), **caudæ**, covered by the **apon. spinalis superficialis**;
 69', continuation of the series.
 70, The **Mm. plagio-antobliqui**, (S.-D.), **caudæ** also covered by the **apon. spinalis superficialis**;
 70', their united tendons.
 71, **Mm. infra-sub-transversares medii**, (S.-D.).
 72, "**M. infra-plagio-transversares longi** et **plagio-mamillares longi**, (S.-D.).
 73, **M. caudo-rectalis**, (S.-D.).
 74, " **ischio-caudalis**, (S.-D.).
 75, " **pubio-caudalis**, (S.-D.).
 76, " **cruralis**, (S.-D.). *c*, its tendon forming a lamina between **M. vastus externus** and **M. vastus internus**.
 77, **M. epimeralis**, (S.-D.).
 78, " **gastrocnemius anterior**, (Str.-Dur.) ;
 79, **M. ilio-caudalis**, (S.-D.).
 80, **M. gastrocnemius posterior**, (Str.-Dur.) ;
a, its tendon.
 81, **O.-ischium**.
 82, " **Pubis** ; *a*, **f. obturatorium**.
 83, " **femoris** ;
a, greater trochanter ; *b*, lesser trochanter.
 84, **M. vastus internus** ;
c, the septum, cut, which fastens it to the **M. vastus externus** and forms the tendon of the **M. cruralis**, (S.-D.). 76.
 85, The "**Patella**."
 86, **M. subcruralis**, (Albinus) ;
a, its tendon.
 87, **Lig. patellæ**.
 88, **Osc. crithoideum externum**, (S.-D.).
 89, **Lig. femoro-crithoideum-externum**, (S.-D.).
 90, **Lig. femoro-tibiale latero-externum**, (S.-D.).

- | | |
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| <p>91, Portion of the tendon of origin of M. cnemodactyleus, (Riolan).
 92, Osc. poplitæum, (S.-D.).
 93, Lig. femoro-poplitæum, (S.-D.).
 94, C. semilunaris externa.</p> | <p>95, Lig. adiposum.
 96, Head of O.-Tibia,
 <i>a</i>, its "epiphysis",
 <i>b</i>, its angle.</p> |
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FIG. 2. *Left part of the inferior surface of the Thorax with the arm, to exhibit the pectoral muscles from below.*

- | | |
|--|--|
| <p>1-8, The eight pieces of the Sternum.
 <i>a</i>, a portion of the cartilages of the ribs—Cc. costales (right side).
 <i>b</i>, the last of the cartilages reaching the Sternum.
 <i>c</i>, Ligs. chondro-sternales inferiores, (S.-D.).
 <i>d</i>, Ligs. infrasternales, (S.-D.).
 9, "ensiform appendix," the hipisternum.
 10, M. clavo-cucullaris, (S.-D.).
 11, " claviculo-deltoides, (S.-D.).</p> | <p>12, Raphe covering the O.-clavicula.
 13, First head of the M. pecto-antebrachialis, (S.-D.).
 14, M. pectoralis latus, (Bourgelat).
 15, second head of M. pecto-antebrachii Calis, (S.-D.).
 16, M. triceps (externus), (S.-D.).
 17, 17', M. pectoralis magnus, (S.-D.).
 18, M. supinator longus.
 19, apon. abdominis.
 20, M. obliquus externus abdominis.
 21, " dermo-humeralis, (Cuv).</p> |
|--|--|

FIG. 3. *The posterior part of the Head and the Atlas seen from behind, to exhibit the Ligaments of the Alto-cephalic articulation.*

- | | |
|--|---|
| <p>1, <i>a, b, c, d, a</i>, O. superoccipitale.
 2, Oo. exoccipitales;
 <i>d</i>, occipital condyles;
 <i>e, e</i>, pp. jugulares, (S.-D.) = pp. paroccipitales.
 3, f. magnum, closed by the Lig. atlo-capitale posterius medium profundum, (S.-D.).
 4, Lig. atlo-capitale transversum posterius profundum, (S.-D.).
 5, The atlas,
 <i>f, f</i>, pp. antobliqui, (S.-D.).</p> | <p><i>gh, gh</i>, pp. transversi, ("transverses et plagienues réunies", Str.-Dur.).
 <i>i</i>, tuberosity representing the p. spinosi.
 <i>j</i>, groove of the f. atloideum, (S.-D.).
 a part of the can. vertebrarterialis, (Owen).
 <i>l, l</i>, arthrodial facets of the pp. postobliqui, (S.-D.).
 <i>m, m</i>, foramen communicating with the can. vertebrarterialis, (Owen).</p> |
|--|---|

FIG. 4. *The o. exoccipitale, (Owen,) and the o. basi-occipitale, (Owen), seen from behind, with the first four cervical vertebræ of which the can. vertebralis is posteriorly laid open to exhibit the ligaments contained therein.*

- | | |
|---|--|
| <p>1, 1, Oo. exoccipitales, (Owen).
 <i>a, a</i>, the occipital condyles;
 <i>b, b</i>, the pp. jugulares, (S.-D.) = pp. paroccipitales, (Owen).
 2, posterior margin of O. basioccipitale, (Owen).
 3, 3, The atlas.
 <i>c, c</i>, section of the "lamina," (neurapophysis, (Owen)).
 <i>d</i>, dotted outline of the can. vertebrarterialis, Owen, with its branch which run into the can. vertebralis.
 4, 5, The axis;
 4, p. odontoides, "p. dentatus";</p> | <p><i>e, e</i>, arthrodial facets of the pp. antobliqui;
 <i>f, f</i>, pp. transversi;
 <i>g, g</i>, section of the "lamina";
 <i>i, i</i>, can. vertebrarterialis, (Owen).
 6, 7, The third and fourth cervical vertebræ, lettered as 5.
 8, Lig. atlo-capitale posterius medium profundum, (S.-D.).
 9, Lig. occipito-dentatum laterale, (S.-D.).
 10, Lig. transversum atlantis, (S.-D.).
 11, "axo-atloideum obliquum, (S.-D.).
 12, Fibrocartilagines intervertebrales, (Bichat).
 13, Lig. supra-vertebrale, (S.-D.).</p> |
|---|--|

FIG. 5. *The Pelvis and first four caudal vertebræ viewed from above.*

- | | |
|--|---|
| <p>1, 2, 3, The three sacral vertebræ.
 4, 5, 6, 7, Caudal vertebræ;
 <i>a</i>, their "neural spines," or (pp. spinosi).
 <i>b, b</i>, pp. autobliqui, with their arthrodial facets;
 <i>c, c</i>, pp. postobliqui;
 <i>d, d</i>, "transversi;
 <i>e, e</i>, "plagici, (S.-D.).
 8, The pelvic bones, together called the "Os innominatum";</p> | <p><i>f, f</i>, "iliac crest";
 <i>g, g</i>, tuberosities of the posterior iliac spine;
 <i>hi, hi</i>, "cotyloid cavities";
 <i>k, k</i>, "ischiatric cavities";
 <i>l, l</i>, O. ischium.
 <i>m</i>, Lig. arcuatum interischiatricum, (S.-D.).
 <i>o, o</i>, b. obturatorium.
 9, 9', 9'', Lig. sacro-iliacum superius, (S.-D.).</p> |
|--|---|

FIG. 6. *The vertebral column from the ninth dorsal vertebra to the extremity of the tail, with portions of ribs, viewed from below.*

- 1, The last five dorsal vertebrae;
- 2, parts of ribs corresponding to them.
- 3, **Ligs. costo-vertebrales**, (Bichat).
- 4, **Lig. infra vertebrale**, (S.-D.). blended towards its posterior part *a*, with the tendons of origin of **M. psoas**, (S.-D.). and of **Mm. infra intertransversales lumborum**, (S.-D.);
- 5, anterior superficial part of the latter muscles.
- 6, Tendonous frenum running from **M. psoas parvus** in front and outside to its attachment to the summit of the **p. transversus** of the second lumbar vertebra.
- 7, 7', **M. psoas**, (S.-D.), and its iliac head.
- 8, 8', 8'', 8''', 8''', extremities of the heads of origin of the **M. psoas** (S.-D.), and of the **M. psoas parvus**, attached to the centra of the lumbar vertebrae from the second to the sixth.
- 9, 9', Continuation of the **Lig. infra vertebrale lumborum**, (S.-D.).
- 10-19, **Mm. infra-intertransversales longi lumborum**, (S.-D.);
- 10, head running from the second to the seventh lumbar vertebra;
- 11, 11', musculous mass situated under the extremities of the **pp. transversi**, and extending from the fourth to the seventh lumbar vertebra;
- 15, head attached to the antero-posterior **pp. transversi** of the lumbar vertebrae
- 16, tendon forming the second origin of posterior heads;
- 17, 17', internal heads attached to the sixth lumbar vertebra.
- 18, Inferior surface of the centra of the vertebrae.
- 19, 19', 19'', heads (of 10-19, see above) arising upon the centra of the last three lumbar vertebrae ;
a, their insertion upon the **O. ilium**.
- 20, **M. psoas parvus**.
- 21, 23, The centra of the last two lumbar vertebrae,
a, **fibro cartilagines intervertebrales**.
- 24, 25, 26, The three sacral vertebrae ;
a, their "**fibro cartilagines intervertebrales**,"
b, **ff. sacrales inferiores**.
c, **pp. transversi**,
d, **pp. plagici**, (S.-D.).
- 27, First caudal vertebra, lettering same as above.
- 28, Centra of other concealed caudal vertebrae ;
- 29, those of the free vertebrae;
- 30, their **pp. plagici**, (S.-D.).
- 31, **M. pyriformis**, (Spiegel).
- 32, "**ischio caudalis**, (S.-D.).
- 33, "**paremeralis**", (S.-D.).
- 34, 34', **M. infra plagio-transversares longi et plagio-mamillares**, (S.-D.). of the tail united.
- 35, the "**costettes**" (S.-D.), or rudiments of ribs.
- 36, 36', 36'', 36''', **M. infra intervertebrales (caudae)**.
- 37, **Mm. infra plagio-mamillares breves**, (S.-D.).
- 38, 38', **Mm. infra-plagio-transversares**, (S.-D.).

Plate VIII.

FIG. 1. *Seventh layer of the muscles of the trunk. There have been removed the O. malare, the p. zygomaticus, the "mandibula," the teeth (dentes), a part of the ribs, and the Mm. intercostellares, (S.-D.), represented in Fig. 3, to show the pp. costellares, (S.-D.), and to exhibit the muscles which are there attached.*

- 1, Dotted outline of the muzzle;
 - a, the nose;
 - b, upper lip;
 - c, lower lip.
- 2, **C. mesorhinalis.**
- 3, " **epirhinalis**, (S.-D.), divided.
- 4, **O. premaxillare.**
- 5, " **nasale.**
- 6, 6', " **maxillare (superius).**
 - a, its orbital tuberosity;
 - b, its articular surface with the p. infra-orbitalis of **O. malare**;
 - c, its portion of the f. infra-orbitale;
- 6, section of its p. **malaris.**
- 7, **O. lacrymale.**
 - d, can. **lacrymalis.**
- 8, **O. palati.**
- 9, " **frontis**, its "frontal plate" or portion,
 - a, its p. **angularis**;
 - b, **Lig. trochleare**;
 - c, tendon reflected from that of **M. obliquus superior (oculi)**;
- 9', "temporal plate" of **O. frontis.**
- 10, **O. ali sphenoidum.**
 - a, { p. **pterygoideus internus**,
p. **omoideus**, (S.-D.).
 - b, p. **pterygoideus (externus).**
 - c, { f. **sphenoidum**, (S.-D.),
f. **lacerum anterius.**
 - d, f. **rotundum.**
 - e, f. **ovale.**
- 11, **O. pariatale.**
- 12, **O. wormianum.**
- 13, **O. squamosum**;
 - b, p. **zygomaticus** divided;
 - a, posterior longitudinal root of the latter;
 - e, pts p. **glenoideus**, and f. **ovale** of the **O. alisphinoideum.**
- 14, **O. superoccipitale.**
- 15, Exterior part of the **O. petrosum.**
 - a, its p. **styloides.**
- 16, **O. tympanicum**,—"auditory bulla".
- 17, " **mastoideum.**
- 18, 18', **O. basihyal**";
- 18, Hyoid apparatus.
 - a, **O. ceratohyal**".
 - b, " **epihyal**".
 - c, " **stylohyal**".
 - d, " **thyrohyal**".
- 19, **C. thyroidea**;
 - ae, its superior branch;
 - b, mem. **hyo-thyroidea**;
 - c, its inferior branch;
 - e, **Lig. hyo-thyroideum laterale.**
- 20, **C. cricoidea**;
 - a, mem. **thyro-cricoidea**, (S.-D.).
 - c, **Lig. thyro-cricoideum laterale**, (S.-D.).
- 21, Superior portion of the **Trachea.**
- 22, Superior portion of the **Œsophagus.**
- 23, Globe of the **Eye.**
- 24, The transparent **cornea.**
- 25, The **Tongue.**

- 26, Lateral margin of the *p. transversus* of the atlas.
- 27, *p. antobliquus* (*prezygapophysis*, Owen.) of the third cervical vertebra;
- 28, that of the fourth.
- 29, 30, 31, 32, 33, extremities of the *pp. transversi* of the last five cervical vertebrae.
- 34, 35, *pp. plagi* (*S.-D.*) of the fourth and fifth dorsal vertebrae ;
- 36, 37, those of the ninth and tenth.
- 38, Portions of the ten complete ("true") ribs.
- 39, Portions of the three incomplete ribs ("false ribs").
- 40, Bones of the Pelvis, ("*os innominatum*", anthrop.),
- a*, antero-superior iliac spine ;
- b*, postero-inferior " " ;
- c*, antero-inferior " " ;
- d*, epiphysis of *O.-ilium* ;
- f*, "ilio-pectinial eminence" ;
- g*, ischiatic spine ;
- bg*, ilio-sacral sulcus ;
- gu*, ischiatic sulcus ;
- i*, "cotyloid cavity" ;
- k*, its rugous part ;
- j*, spine of the *O.-pubis* ;
- hj*, symphysis of the *Oo.-pubis et-ischiium*).
- lm*, cotyloid arch ;
- n*, ischiatic tuberosity ;
- o*, *f. obturatorium* ;
- pg*, *Lig. cotyloideum* ;
- r*, " *interarticulare coxo-femorale* .
- 41, *mem. mucosa* of the back of the mouth on the left side,
- d*, a fold of the same membrane covering the anterior margin of the *p. coronoideus* of the "*mandibula*".
- 42, *M. glosso-epiglotticus*.
- 43, " *lingualis longitudinalis* .
- 44, A portion of the *M. rectus superior (oculi)* .
- 46, A portion of *M. rectus externus (oculi)* .
- 47, *M. obliquus inferior (oculi)* .
- 48, A portion of *M. rectus inferior* .
- 49, *M. obliquus superior (oculi)* .
- 50, " *elevator oculi* " } Each is a part
- parvus*, (*St.-Dur.*) } of the *M. cho-*
- 51, " *abductor* " } anus of zootom-
- 52, " *detractor* " } ists.
- 54, *M. peristaphilinus externus* .
- 55, " *stylo-pharyngeus* .
- 56, " *constrictor pharyngis (superior, (Albin))* .
- 57, *M. peristaphylinus (internus)* .
- 58, A portion of the *M. stylo-glossus* .
- 59, *M. genio-glossus*, cut at its origin.
- 60, Second head of the *M. hyoglossus*,
- 61, 61', *M. hyopharyngeus* .
- 62, " *constrictor pharyngis (superior, (Albin))* .
- 63, *M. intercostellaris, (Str.-Dur.)* .
- 64, *M. rectus capitis anticus minor* .
- 65, " *obliquus capitis superior* .
- 66, " *rectus capitis posticus major* .
- 67, " *buccinator (-M. bucco-pharyngeus (Courcelles))* .
- 68, *M. longus colli anterior* .
- 69, " *obliquus capitis inferior* .
- 70, 70', *Mm. intertransversares colli* .
- 71, *p. costellaris, (S.-D.)*, of the 4th cerv. vert.
- 72, *Mm. antobliquo-spinales-(colli), (S.-D.)* .
- 74, *p. costellaris, (S.-D.)*, of 6th cerv. vert..
- 75, raphes of the cervical spinal processes.
- 76, *M. interpostobliquus (colli), (S.-D.)* .

- 77, "cord" of the 6th cerv. vert.
- 78, *M. interspinalis* (colli), (S.-D.).
- 83, *Fræna* of the *M. spinalis dorsii*, *a*, *b*, *c*, *d*, making part of the third sheet of the *apon. spinalis* and upon which the *M. intersectus*, (S.-D.), arises.
- 84, *M. spinalis dorsii*.
- 85, Tendon of origin of the *M. complexus*, (S.-D.), (=pars m. complexus major).
a, its superior branch, attached to the *p. spinalis* of the following vertebra
- 86, and making part of the *apon. spinalis profundus*;
b, inferior branch of same inserted upon the *p. autobliquus*, (S.-D.).
c, origin of the *m. complexus*, (S.-D.).
- 87, Origins of the *M. intersectus*, (S.-D.).
- 91, Portions of the long heads of the *M. plagio-autobliqui* (colli) posteriores, (S.-D.).
- 92, *a*, *b*, *c*, *d*, *e*, heads of secondary length arising from the last five cervical vertebræ,
- 93, a part of the same set of muscles of the dorsal region;
- 94, the posterior dorsal bundles and those of the lumbar region;
a, their anterior, tendons;
- 95, those of the sacral and caudal regions.
- 96, 96', *Mm. super-intertransversares longi* (caudæ), (S.-D.).
- 97, *M. lumbo-plagicus* (lumbalis) (S.-D.).
- 98, *M. infra-plagio-transversaris medius*, (S.-D.), caudæ.
- 99, Origin of the *Mm. gluteus* (maximus), pyriformis, ischio-caudalis and parameralis.
- 100, *M. subcaudalis*, (S.-D.).
- 101, "ilio-caudalis, (S.-D.).
- 102, "pubio-caudalis, (S.-D.).
- 103, "caudo-rectalis, (S.-D.).
- 104, *Mm. isosceles quartus et quintus*, (S.-D.).
- 105, *M. isosceles sextus*, (S.-D.).
- 106, "longus colli (inferior, (S.-D.).
- 107, Origins of the *Mm. costo-spinalis*, (S.-D.).
- 108, *Mm. costo-lumbares*, (S.-D.).
- 109, "super-costales parvi, (Verheyen).
- 110, External margin of a tendon common to the *Mm. lumbo-plagicus*, (S.-D.). (97), and
- 111, *M. lumbo-transversares*, (S.-D.).
- 113, "psaos parvus, *h*, its tendon.
- 114, *Mm. infra-intertransversares longi*, (S.-D.) (lumborum);
- 115, the posterior head of 114;
- 117, The posterior portion of the *M. obliquus internus* (abdominis);
acb, superior crural arch;
bcik, median crural arch,
c, origin of a fibrous bundle running to the pelvis;
g, lamina of the "median pillar" *b*, running to the tendon of *M. psaos parvus h*;
k, lamina running from the "pillar" *i*, to the *O.-pubis*.
- 118, Posterior portion of the second sheet of the *apon. abdominis*, tendon of the *M. obliquus internus* (abdominis).
- 119, Posterior portion of the first sheet of the *apon. abdominis*, tendon of the *M. obliquus externus*, and containing the inguinal or abdominal ring ("annulus abdominalis"), *edg*;
d, its "internal pillar";
e, its "external pillar".

FIG. 2. *Eighth layer of the muscles of the trunk. The parts removed, in addition to those removed in Fig. 1, are the Oo. pre-maxillare and maxillare (superius), all the ribs and the left part of the pelvis.*

- 1, **C. mesorhinalis**,
 - a*, **C. epirhinalis**, (S.-D.),
 - d*, vertical crest of the former.
- 2, **O. maxilloturbinale**, (Owen).
 - fg*, its lamella which fixes it to **O. maxillare (superius)**;
 - h*, its posterior extremity;
 - d*, the convolutions;
 - e*, upright plate.
- 3, Ethmoidal cells, or **sulci**,
- 3', portions of these cells which penetrate the frontal sinus.
- 3'', the vertical lamina of the right **O. nasale**.
- 3''', "**lamella plana**" (**ethmoidalis**).
- 4, **O. orbitosphenoideum**, (Owen),
 united with the **O. presphenoideum**, (Owen).
 - abef*, **O. orbitosphenoideum**, (Owen);
 - c*, **f. lacerum-anterius**; *d*, **f. opticum**;
 - dm*, sulcus for **nervus maxillaris**.
- 5, Frontal lamella of the **O. frontis**;
 - f*, **p. metopium**. (S.-D.). ("nasal eminence") containing the frontal sinus;
 - g*, **p. angularis**;
 - gl*, commencement of the curved temporal line;
- 5', orbital lamella of the **O. frontis**.
- 6, **O. alisphenoideum**, (Owen).
 - a*, **p. pterygoideus internus**.
 - e*, **f. ovale**; *f*, **f. rotundum**;
- 6', (**p. pteralis** S.-D.).
- 7, **O. parietale**.
- 8, **O. Wormianum**;
 - mr*, "wormian crest"; *nr*, "lambdoid crest"
- 9, Exterior portion of **O. petrosum**;
 - a*, **f. stylo-mastoideum**;
 - b*, **p. styloides**;
 - i*, " **ascendens**, (S.-D.).
- 10, **O. exoccipitale**;
 - d*, **p. paroccipitalis**.
 - a*, **Lig. atlo-capitale transversum posterius superficiale**, (S.-D.).
 - b*, **Lig. atlo-capitale laterale**, (S.-D.).
- 11, **O. superoccipitale**, (Owen).
- 12, " **lacrymale**, *a*, its **can. lacrymalis**.
- 13, Internal margin of the **O. premaxillare**, and of its **p. palatinus**.
- 14, **O. palati**; *abikm*, its **orbito-nasal lamella**;
 - d*, **f. spheno-palatinum**, (S.-D.);
 - e*, orifice of the **can. palatinus posterior**; *i*, orifice of the **can. palatinus anterior**;
- 14', antero-external margin of the palatine lamella of the left **O. palati** articulated with the **O. maxillare (superius)** which is removed.
- 15, **O. vomeris**.
- 16, Internal margin of the palatine lamella of the right **O. maxillare (superius)**.
- 17, *bc*, a portion of the skin forming the contour of the nose and upper lip;
 - c*, its superior cut margin;
 - b*, the upper lip (**labium superius**)

- 18, Superior incisives (**Dd. incisores superiores**).
- 19, **O. squamosum**;
m, part of its **p. zygomaticus**;
im, longitudinal "root" of the latter;
opi, the **p. posterior**, (*squamosi*);
og, the "squamous suture".
- 20, **O. tympanicum**.
a, **f. stylo-mastoideum**;
cd, "manubrium mallei," or "handle" of the **Osc. malleum**;
c, "*f. tympani*, (*S.-D.*)".
- 21, **O. mastoideum**;
bd, **p. paroccipitalis**.
- 22, Alveolar margin of the right **O. maxillare** (*sup.*).
- 23, The right **D. caninus**.
- 24, Right pillar of the "**vellum pendulum palati**" in the cavity of the mouth.
- 25, **O. basihyoideum**, (*Owen*).
- 26, Cephalic horn of the hyoid apparatus;
a, the lateral cartilage upon which the cephalic branch of the hyoid apparatus is articulated, (*?*) "**tympano hyal**" (*Flower*).
b, "**cerato-hyal**"
c, "**epi-hyal**"
d, "**stylo-hyal**" } the three osseous pieces comprised in the "cephalic" horn.
e, the cartilaginous part which attaches it to the **p. styloides** of **O. petroseum**;
- 27, Laryngial horn of the same.
- 28, Anterior margin of the right half of the **C. thyroidea**, the left half being removed.
- 29, *c*, **cricoidea**, entire;
a, **mem. thyro-cricoidea**.
- 30, Inferior part of the "**epiglottis**".
- 31, A portion of the "**trachea**".
- 32, The atlas. *ab*, its **p. transversus**;
c, **f. atloideum**, (*S.-D.*).
d, **Lig. axo-atloideum posterius superficiale** (*S.-D.*).
e, **f. intervertebrale**.
- 33, The axis; *a*, its **p. spinosus**, or neural spine;
c, **can. vertebrarterialis**, (*Owen*).
d, extremity of the **p. transversus**.
- 34, Third cervical vertebra;
a, extremity of the **p. transversus**;
c, **f. intervertebrale**,
- 35, Fourth cervical vertebra.
a and *c*, same as on 34.
b, **p. costellaris**, (*S.-D.*).
- 36, Fifth cervical vertebra; lettered as 35.
- 37, Sixth cervical vertebra.
a, **p. transversus**;
b, *b'*, the two branches of the **p. costellaris**, (*S.-D.*).
d, **p. antobliquus**, (*S.-D.*).
- 38, Seventh cervical vertebra.
a, **p. transversus**.
b, **p. antobliquus**, (*S.-D.*).
c, **f. intervertebrale**.
- 39-41, The first three dorsal vertebræ.
a, **p. transversus** bearing the articular facet for the rib.
b, **p. antobliquus**, (*S.-D.*).
c, **f. intervertebrale**.
d, **p. plagiatus**, (*S.-D.*).
- 42, 43, The next seven dorsal vertebræ.
a, arthrodial facet with which the head of the rib articulates.
b, **p. transversus**.
c and *d* as on 39-41.
e, "**fibro-cartilage intervertebrale**".
- 44, Three dorsal vertebræ, bearing only incomplete ribs;
a, cavities for articulation with the incomplete ribs.

- b, c, d*, as on 43; *f*, same as 43, *e*.
e, **p. antobliquus**, (S.-D.).
- 45, Lumbar vertebræ.
b, c, d and *e*, as on 44.
ff, **Ligs. plagio-transversales**, (S.-D.). *g*, **Lig. intertransversares**.
- 46, **pp. transversares (sacri)**.
jh, arthrodial facets;
g, **Lig. interosseum sacro-iliacum superius**, (S.-D.). *h*, **Lig. interosseum sacro-iliacum medius**, (S.-D.).
i, **Lig. interosseum sacro-iliacum inferius**, (S.-D.).
- 47, 48, the last two sacral vertebræ.
b, d, and *e*, same as on 44;
- 49, The caudal vertebræ.
b, d, and *e*, same as on 44;
bd, **Mm. infra-plagio-transversales breves**, (S.-D.).
i, **pp. postobliqui**, (S.-D.).
- 50, The tongue.
- 51, **M. stylo-glossus** cut.
- 52, " **hyo-glossus** "
- 53, " **peristaphilinus externus**.
- 54, " **genio-glossus** cut at its origin.
- 55, " **glosso-epiglotticus**.
- 56, " **cerato-hyoideus**, (S.-D.).
- 57, " **constrictor pharyngis (superior, Albin)**.
- 58, " **thyro-arytenoideus**.
- 59, " **crico-arytenoideus lateralis**.
- 60, " **plagio-antobliquus**, (S.-D.) (axis).
- 61, " **crico-arytenoideus posterior**.
- 62, " **longus colli (anterior)**, (S.-D.).
- 63, " **rectus capitis posticus minor**.
- 64, **Lig. capsulare (axo-atloideum)**.
- 65, " **capsulare** between the third cervical vertebra and the axis.
- 66, "cord" of the 6th cervical vert..
- 67, **M. longus colli inferior**;
- 68, its principle anterior head cut.
- 69, 69', 69'', 69''', 69''''', **Mm. antobliqui-spinales**, (S.-D.) colli.
- 72, **Lig. infravertebrale**, (S.-D.).
- 74, Origins of the **M. intersectus**, (Str.-Dur.),
ad, fræna from which it arises;
df, tendonous tongues making part of the
- 75, **apon. spinalis profundus**, (S.-D.).
- 76, *e*, **Mm. inter-spinales**;
d, raphes which separate them.
- 77, **Mm. antobliqui-spinales lumborum**, (S.-D.).
- 77', **Mm. antobliqui-spinales caudæ**, (S.-D.).
- 79, 79'', 79''', isolated heads of the **Mm. plagio-antobliqui**, (S.-D.).
- 80, Fifth sheet of the **apon. spinalis superficialis** raised, it being formed by the union of the terminal tendons of the **Mm. plagio-antobliqui**, (S.-D.),
a, b, c, d.
- 81, Portions of the **Mm. costo-spinales**, (S.-D.).
- 82, Second layer, also raised, of the fourth sheet of the **apon. spinale superficialis**, formed by the union of the tendons of the **Mm. costo-spinalis**, (S.-D.), **Mm. costa-lumbales**, (S.-D.), and **Mm. lumbo-spinales**, (S.-D.).
- 83, 84, **Mm. infra-intertransversales longi**, (S.-D.) lumborum.
- 85, The right **O-ilium**.
- 86, **Mm. subvertebrales**, (S.-D.) (caudæ).
- 89-107, The male genital organs.
- 89, 89', **M. caudo-cavernosus**.
- 90, " **caudo-analis**, (S.-D.).
- 91, the **Rectum**;
- 91', posterior extremity of same.

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| <p>92, M. caudo-rectalis.
 93, " transversus perinæi.
 94, " sphincter ani internus.
 95, The Anus ;
 96, tegumentary ring surrounding the latter.
 97, M. penis, (Str.-Dur.).
 98, Gl. cowperi,—"Cowpers glands".
 99, M. ischio-cavernosus, the left one cut ;
 99', the right one.
 100, M. recto-cavernosus, (S.-D.).
 101, " vesicalis, (S.-D.).
 <i>a</i>, fundus vesicæ ;</p> | <p> <i>b</i>, neck of the bladder.
 <i>c</i>, the left ureter cut.
 102, The Prostate (Gl. prostata.)
 103, M. sphincter urethræ.
 104, " bulbo-cavernosus.
 105, Corpus-cavernosum ;
 <i>a</i>, its left root cut.
 106, The Prepuce—(preputium).
 107, Glans penis.
 108, A portion of the apon. abdominis reaching to the O.-pubis.
 109, <i>a</i>, Abdominal branch of O.-pubis :
 <i>b</i>, f. obturatorium.
 <i>c</i>, pubico-ischic symphysis.</p> |
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FIG. 3. *Ninth layer of muscles of the trunk ; there have been removed besides parts removed in last figure, the anterior part of the left O. frontis, the left Oo. lacrymale, palati and squamorum, the cephalic horns of the hyoid apparatus, and the frontal sinus, the sphenoidal sinus and the tympanum have been opened.*

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| <p>1, C. mesorhinalis.
 2, Ethmoidal cells (or sulci) of left side ;
 <i>agef</i>, the "superior mass", of which the posterior extremity penetrates into the frontal sinus ;
 <i>ef</i>, transverse lamella serving as a base for the "cells".
 <i>b</i>, "ossicula Bertini" or sphenoidal cornua, penetrating a little into the sphenoidal sinus ;
 <i>cdfe</i>, the "anterior mass".
 3, C. epirhinalis, (S.-D.) cut,
 4, O. maxilloturbinale, (Owen).
 5, The under side of the O. nasale, partly cut longitudinally.
 6, The left sphenoidal sinus, laid open,
 <i>ac</i>, O. orbitosphenoidium, (Owen).
 <i>c</i>, f. opticum ;</p> | <p> <i>d</i>, f. lacerum anterius.
 7, "frontal lamella" of O. frontis ;
 <i>abc</i>, a section of its external part raised to exhibit the frontal sinus 7' ;
 <i>d</i>, orifice of communication between the two sinuses ;
 <i>e</i>, posterior fossa,
 7'', orbital and temporal lamella of the bone, the former cut in front along the line <i>ed</i>, to exhibit the "O. ethmoideum".
 8, O. alisphenoidium ;
 <i>d</i>, f. lacerum anterius.
 <i>e</i>, f. rotundum ; <i>f</i>, p. pteralis, (S.-D.)-
 <i>g</i>, its posterior branch concealed, articulating in front with the O. squamosum 11, which is removed, the O. tympanicum 14, and the O. petro-</p> |
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- sum 12, so as to be continuous with the inferior margin of the **tentorium**; *h*, the **p. pterygoideus-internus**.
- 9, **O. parietale**.
- 10, "**wormianum**."
- 11, Lateral opening of the **cranium**, where belongs the **O. squamosum**.
- 12, 13, 14, The "**Tympanum**," opened on the outer side by removing the external half of the **O. tympanicum** 14, and of the **O. mastoideum** 13.
- 12, Infra-external surface of the **O. petrosus**, forming the median part of the ceiling of the "drum"; *b*, **fenestra cochlearis**; *d*, **fenestra vestibularis**; *e*, **p. rhinoideus**, (S.-D.). *m*, **M. Eustachii**;
- 12', Exterior part of the **O. petrosus**.
- 13, The mastoid cavity of the **tympanum** laid open; *a*, the partition which separates it from the "drum" proper 14.
- 14, The "drum" of the **tympanum** opened; *abf*, lamella forming the internal inferior part of the wall of the "drum", separating it from the "mastoid cavity" 13, and covering the lower half of the **O. petrosus**, thus masking the corresponding part of the "**promontory**"; *ac*, osseous part of the **eustachian tube**; *c*, its guttural orifice; *b*, the **fenestra cochlearis** cut in two by the partition *abf*; *ak*, **M. folianus**, (Str.-Dur.).
- 15, **Oo. super-occipitale** and **exoccipitale**, (Owen). *ae*, **Lig. alto-capitale posterius**, (S.-D.); *d*, **Lig. capsulare (alto-capitale)**.
- 16, Internal margin of the right **O. premaxillare**;
- a*, its **Dd. incisores**.
- 17, internal margin of the palatine lamella of the right **O. maxillare (superius)**;
- 17', alveolar border of the same; *a*, *b*, *c*, *d*, its **Dd. molares**;
- 18, its **D. caninus**.
- 19, Internal margin of the palatine lamella of the right **O. palati**.
- 20, **O. vomeris**.
- 21, **fossæ nasales**.
- 22, The hyoid apparatus "**Oo. hyoides**" *ab*, its laryngian branch; *c*, **M. hyo-epiglotticus**; *e*, margin of the right **mem. hyo-thyroidea** cut.
- 23, "Lingual" horn of the hyoid apparatus, cartilaginous in the cat.
- 24, The anterior cut margin of the right wing of the **C. thyroidea**, the left wing having been removed; *b*, **Lig. thyro-arytenoideum; externum**, (S.-D.). *c*, **Lig. thyro-arytenoideum internum**, (S.-D.), or the "vocal cord".
- 25, **C. cricoidea**; *a*, its lateral tuberosity upon which is articulated the inferior branch of the **C. thyroidea**; *b*, posterior part, or "**chaton**" of cartilage; *c*, **mem. thyro-cricoidea**.
- 26, The left **C. arytenoidea**; *a*, its anterior angle; *ie*, the margin by which it is articulated with the "**chaton**"; *d*, external extremity of the cartilage.
- 27, **Epiglottis**; *c*, **M. hyo-epiglotticus**.
- 28, **atlas**; *a*, its centrum; *b*, its **p. antobliquus**, (S.-D.). *cd*, **p. transversus**; *g*, **Lig. axo-atloideum posterius-profundum**, (S.-D.); *h*, orifice for the passage of the **n. vertebralis**.
- 29, **axis**; *ab*, its **p. spinosus**; *c*, **p. transversus**; *d*, the prominence which forms the **p. post-obliquus**,

- (S.-D.), bearing the posterior articular facet; *f*, the axo-atloidian capsule; *h* and *i*, **ff. intervertebrales**; *m*, **Mm. intercostellares**, (S.-D.); *u*, **Lig. capsulare**.
- 30-34, The last five cervical vertebræ; *b*, **pp. transversi**; *c*, **pp. antobliqui**, (S.-D.); *d*, **p. postobliqui**, (S.-D.); *e*, **p. spinosus**; *f*, "centra" of the vertebræ; *i*, **f. intervertebrale**; *k*, **Lig. interspinosum exteruum**, (S.-D.); *l*, **Lig. interspinosum internum**, (S.-D.); *n*, lateral articular capsula.
- 33, The sixth cervical vertebra, *aa'*, its "cord".
- 35, 36, and 37, The dorsal vertebræ; *a*, the **pp. transversi** and **antobliqui**, (S.-D.); *b*, **p. plagicus**, (S.-D.); *e*, **pp. spinosi**; *i*, **f. intervertebrale**; *k*, (**fibro cartilago intervertebralis**); *c*, (of 37), **pp. antobliqui**, (S.-D.); *a*, (37), rudiments of **pp. transversi**.
- 38, Lumbar vertebræ; *a*, **pp. transversi**; *c*, **pp. antobliqui**; *b*, *e*, *i*, and *k*, as above.
- 39, Section of the **p. transversus**, and the homologue of the rib,—**pleurapophysis** (Owen), of the first sacral vertebra; *a*, section of the vertebra 39; *h*, that of the homologue of the rib,—**pleurapophysis**, (Owen); *c*, **p. antobliquus**, (S.-D.); *e*, **p. spinosus**; *fg*, suture between the **p. transversus** and the "pleurapophysis", (Owen); *fh*, articular facet for **O. ilium**; *g*, ligamentary impressions.
- 40, Second sacral vertebra; *ab*, section of its **p. transversus**; *c*, and *e*, as in 38.
- 41, Third sacral vertebra; *a*, same as 38, *a*; *b*, *c*, *e*, and *i*, same as on 37.
- 42-48, same lettering as 41.
d, **p. postobliquus**, (S.-D.).
- 49, Portions of the **costæ-ribs**; *a*, their "heads"; *b*, "tuberosities"; *m*, their cut extremities.
- 50, Portions of the incomplete ribs, ("costettes"). The *a*, and *m*, as on 49.
- 51, The right **O. ilium**.
- 52, Symphysial margin of **O. pubis** and **O. ischium**; *a*, **f. obturatorium**.
- 53, 54, 55, Incomplete ribs, or **costæ**.
- 56, Superior part of the tongue (**glossa**) with its various integuments cut to exhibit
- 57, the **M. genioglossus**, cut at its origin.
- 58, **M. glosso-epiglotticus**.
- 59, **Mm. interpostobliqui**, (S.-D.), (**colli**).
- 60, **pp. spinosi** of the cervical and dorsal vertebræ; *ee*, their **Lig. supraspinosi** (S.-D.); *k*, **Lig. interspinosi externi**, (S.-D.).
- 61, **M. interantobliquus**, (S.-D.).
- 62, **Lig. transverso-costale externum** (S.-D.).
- 63, **Mm. antobliquo-spinosi dorsi**; (S.-D.); *a*, "long head"; *b*, medial head; *c*, "short head".
- 64, The **rectum** cut.
- 65, **M. caudo-rectalis**, (S.-D.).
- 66, The **anus**.
- 67-77, genital organs of the female cat.
- 67, The **vulva**.
- 68, **M. sphincter ani internus**.
- 69, "constrictor sacculi ani", (S.-D.).
- 70, "recto-vaginalis", (S.-D.).
- 71, "caudo-analis", (S.-D.).
- 73, "transversus perinæi".
- 74, "sphincter urethræ".

75, " ischio-cavernosus, cut.
76, The vagina,
77, the urethra, (ductus urinarius),

78, the urinary bladder, vesica urinaria;
a, the ureter (ductus urinæ), cut.

Plate IX.

FIG. 1. *The right anterior Limb, entire, with all its muscles ; showing the inner surface in the same position as in the preceding plates.*

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| 1, The insertion of the M. serratus magnus upon the scapula. | 14, M. coraco-brachialis . |
| 2, Aponeurosis covering the Mm. superspinatus and sub-scapularis , | 15, 15', M. biceps (brachialis). |
| 3, prolongation of same upon the latter muscle. | 16, Scapulo-humeral capsule. |
| 4, M. teres major . | 17, M. anconeus medius . |
| 5, " pectoralis latus , (Bourgelat). | 18, " triceps medius , (S.-D.). |
| 6, Part of the M. sterno-brachialis (S.-D.) | 19, " brachialis (anterior). |
| 7, 7', Part of the M. pectoralis magnus , (S.-D.); e, part of its terminal tendon. | 20, Inferior extremity of O. humeri . |
| 8, p. coracoideus . | 21, M. triceps (internus, (S.-D.)). |
| 9, Part of M. latissimus dorsi ; <i>abcd</i> , arch formed by its tendon and under which the vessels and nerves of the arm pass; a, pillar common to it and the tendon of M. teres major ; b, parts proper to M. latissimus dorsi ; c, origin of M. triceps (internus), (S.-D.), 21; d, pillar common to it and M. pectoralis magnus , (S.-D.). | 22, Part of M. claviculo-deltoides . (S.-D.). |
| 10, Ligament which fastens M. anconeus medius , (S.-D.) to the scapula. | 23, M.-pronator radii teres . |
| 11, The head of O. humeri . | 24, 25, 26, 27, M. flexor profundus perforans . |
| 12, The trochiter (Chaus.), (greater tuberosity). | 28, 28', M. ulnaris , (S.-D.). |
| 13, Bicipital arches. | 29, The cut tendon of M. radialis externus (secundus, (winslow)). |
| | 30, The cut tendon of M. radialis (externus) primus . |
| | 31, Lig. phaco-I. metacarpale dorsale , (S.-D.). |
| | 32, Lig. trapezo-II metacarpale dorsale , (S.-D.). |
| | 33, M. abductor medius secundi digiti . |
| | 34, Lig. armillare anterius (S.-D.). |
| | 35, Eminence produced by the pisiforme. |
| | 36, Lig. pisi-IV. metacarpale palmare (S.-D.). |
| | 37, Osc. I. metacarpale . or first metacarpale bone. |

- 38, Internal sesamoid bone of the thumb.
 39, **Lig. I. metacarpo-sesamoideum internum pollicis**, (S.-D.).
 40, **Lig. I. metacarpo-phalangiale internum**, (S.-D.).
 41, **Lig. sesamo-phalangiale pollicis internum**, (S.-D.).
 42, Primary, or proximal phalanx of the Pollex;
 43, secondary phalanx; *a*, its claw.
 44, **Lig. elasticum extensor internum** of the secondary phalanx of the Pollex.
 45, **O. tertium metacarpale**.
 46, " **secundum metacarpale**.
 47, **M. adductor longus indicis**;
 48, Tendon of the **M. profundus** running to the same digit,
 49, that of the third digit,
 50, that of the fourth digit,
 51, that of the fifth digit.
 52, Cartilaginous disk situated over the third metacarpo-phalangial capsule.
 53, First **Phalanx** of the index finger, **O. primi phalangis digiti tertius**,
 54, **Lig. interphalangeum primum**,
 55, Medial or second Phalanx,
 56, terminal part of the tendon of the **M. extensor communis digiti**,
 57, **Lig. interphalangeum secundum**,
 58, distal, or third Phalanx,
 59, claw.

FIG. 2. *The same limb showing the second layer of Muscles.*

- 1, 1', **Supra scapular border**,
 2, insertion of **M. serratus magnus**,
 3, **M. supraspinatus**; *a*, its tendon; *bc*, tendonous lamella which separates it from the **M. infraspinatus**.
 4, **M. infraspinatus**; *a*, *b*, two of its aponeuroses of origin.
 5, **O. humeri**;
 6, the **trochiter**, or "greater tuberosity",
 7, **bicipital arch**, or Ligament,
 8, the **trochin**, or "lesser tuberosity",
 9, articular head of the **O. humeri**.
 10, **M. coraco-brachialis**; *a*, its tendon.
 11, **M. biceps (brachii)**; *b*, its tendon.
 12, Ligament attaching the **M. anconeus medius** to the scapula.
 13, **M. anconeus medius**.
 14, " **anconeus internus**.
 15, " **triceps medius**.
 16, Inferior parts of the **O. humeri**; *a*, the **epitrochlea**.
 17, **Lig. humero-cubitale latero-internum**.
 18, Part of **M. brachialis**.
 19, " " **delto-clavicularis**.
 20, Internal humeral branch of **Lig. coranarium**.
 21, **M. supinator brevis**.
 22, 25, **M. profundus**; 22, first head; 23, second head; 24, fourth head; 25, third head.
 26, Tendon of **M. cercialis** (Str.-Dur.).
 27, Inferior extremity of the **Radius**; *a*, its head.
 28, Origin of the **Lig. armlare posterium** upon the **O. ulna**.
 29, **Lig. radio-scaphoideum internum** (S.-D.).
 30, **Lig. capsulare radio-carpiale**.
 Between 30 and 31, the **Lig. scapho-phalangeum internum**, (S.-D.).
 31, **O. phalangeum**.

- Between 31 and 46 is the **Lig. phaco-**
I-metacarpiale dorsale.
- 32, **O. trapezium.**
- 33, " **trapezoideum.**
- 34, " **pisiforme.**
- 35, **Lig. pisi-hypothenatum, (S.-D.).**
- 36, " **trapezo-trapezoideum dorsale,**
(S.-D.).
- 41, **Lig. pisi-IV metacarpale palmare,**
(S.-D.).
- 42, **Lig. trapezo-I metacarpale dorsale,**
(S.-D.).
- 46, **O. metacarpale primum, (-I. meta-**
carpale.)
- 47, **O. metacarpale secundum (II. me-**
tacarpale.)
- 48, **O. metacarpale tertium (III. meta-**
carpale.)
- 49, **O. metacarpale quartum (-IV. meta-**
carpale.)
- 50, **O. metacarpale quintum (V. meta-**
carpale.)
- 51, Internal sesamoid bone of the thumb,
 -(**Osc. sesamoideum internum**
pollicis).
- 52, Primary Phalanx of the thumb.
- 53, **Lig. elastico-extensum internum**
III phalangis, (S.-D.).
- 54, Claw of the thumb,
- 55, bony sheath of the claw.
- 56, **Lig. interphalangianum primum in-**
ternum, (S.-D.).
- 57, **Lig. V metacarpo-sesamoideum in-**
ternum, (S.-D.).
- 58, **Lig. V metacarpo-II phalangiale**
internum, (S.-D.).
- 59, **Lig. sesamo-II phalangiale inter-**
num, (S.-D.).
- 60, **Lig. capsulare-II metacarpo-II pha-**
langiale, (S.-D.).
- 61, **Lig. sesamoideum internum indi-**
cis, (S.-D.).
- 62, **Lig. II metacarpo-sesamoideum**
internum, (S.-D.).
- 63, **Lig. sesamo-phalangiale internum,**
(S.-D.).
- 64, **Lig. II metacarpo phalangiale in-**
ternum, (S.-D.).
- 65, **O. primum phalangiale.**
- 66, **Lig. inter-phalangianum primum**
internum, (S.-D.).
- 67, **O. secundum phalangiale.**
- 68, **Lig. inter-phalangianum secundum**
internum, (S.-D.).
- 69, Claws of the three median digits.

FIG. 3. *The Humerus, portions of the Scapula and of the bones of the forearm, (antebrachium), viewed from the inner side, and exhibiting the deep muscles and ligaments.*

- 1, Inferior part of the scapula;
 a, posterior part of the glenoid cavity;
 b, p. coracoideus.
- 2, The "trochiter".
- 3, The diaphysis of humerus.
- 4, The "trochin".
- 5, 6, 7, Scapulo humeral capsular lig-
 ament, **Lig. capsulare scapulo hu-**
merale;
- 5, and 6, bundles somewhat stronger
 than the remainder of the Lig.
- 8, bicipital groove.
- 9, " arch.
- 11, a ligamentous **Frenum**, which, attach-
 ed by its inferior extremity a, unites
 the **M. anconeus medius (a)** with
 the **Scapula.**

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| <p><i>a</i>, M. anconeus medius (S.-D.).</p> <p>12, the two inferior condyles of the Humerus.</p> <p>13, 13', M. coraco-brachialis; <i>a</i>, its tendon</p> <p>14, the "epitrochlea".</p> <p>15, portions of the tendons of M. teres major.</p> <p>16, 16', M. anconeus medius, (S.-D.); <i>a</i>, aponeurotic lamina which constrains it.</p> | <p>17, M. anconeus internus, (S.-D.).</p> <p>18, 19, the ulna</p> <p>19, p. anconeus, (or Olecranon).</p> <p>20, a portion of the Radius.</p> <p>21, Lig. coronarium, (S.-D.). 22, its branch coming from the "epitrochlea"; 23, that coming from the "epicondyle".</p> <p>24, Lig. humero-ulnare latero-internum (S.-D.).</p> |
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FIG. 4. *The anterior limb, outer surface, in the same position as upon Plates II., III., and IV., exhibiting the fourth layer of muscles.*

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| <p>1, The fossa infraspinata (scapularis).</p> <p>2, p. recurrens (S.-D.).</p> <p>3, M. supraspinatus; <i>a</i>, its aponeurosis of origin; <i>b</i>, its terminal tendon.</p> <p>4, 5, Lig. capsulare scapulo humerale;</p> <p>4, a fibrous bundle stronger than the remainder of the capsule;</p> <p>6, M. teres minor.</p> <p>7, the "trochiter";</p> <p>8, 8', diaphysis of the Humerus. 8', the deltoid impression; 9, inferior head of the Humerus.</p> <p>10, the "epicondyle".</p> <p>11, the condyle.</p> <p>12, p. anconeus, (or olecranon).</p> <p>13, Lig. humero-ulnare latero-externum (S.-D.).</p> <p>14, tendon of origin of the M. adductor longus pollicis (S.-D.).</p> <p>15, tendon of origin of the M. extensor proprius digiti tertii (S.-D.).</p> <p>17, M. radialis primus.</p> <p>18, " extensor pollicis longus.</p> <p>19, " extensor proprius indices.</p> <p>20, " flexor profundus perforans.</p> <p>21, " ulnaris (S.-D.).</p> <p>22, " adductor longus pollicis (S.-D.).</p> | <p>23, inferior head of the Radius.</p> <p>24, inferior extremity of the ulna.</p> <p>25, tendon of the M. radialis secundus.</p> <p>26, radio-carpal capsule.</p> <p>27, Lig. interosseum semiluno-cuneiformeum (S.-D.).</p> <p>28, O. lunare.</p> <p>29, Lig. ulno. radiale inferior (S.-D.).</p> <p>30, " magno-unciforme dorsale (S.-D.).</p> <p>31, O. unciforme.</p> <p>32, prominence formed by the O. pisi-forme.</p> <p>33, Lig. unci—IV metacarpale dorsale (S.-D.).</p> <p>34, Lig. unci—V metacarpale dorsale (S.-D.).</p> <p>35, O. cuneiforme.</p> <p>38, Lig ulno-pisiforme (S.-D.).</p> <p>40, " pisi-IV metacarpale palmare (S.-D.).</p> <p>41, Lig. ulno-cuneiforme externum (S.-D.).</p> <p>42, Lig. cunei-pisiforme externum (S.-D.).</p> <p>43, Lig. pisi-V metacarpale palmare (S.-D.).</p> |
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| <p>44, Lig. cunei-V metacarpale palmare (S.-D.).</p> <p>45, Lig. cunei-V metacarpale dorsale (S.-D.).</p> <p>46, claw of the Pollex.</p> <p>47, O. metacarpale tertium (-III metacarpale).</p> <p>48, O. metacarpale quartum (-IV metacarpale).</p> <p>49, O. metacarpale quintum (-V metacarpale).</p> <p>50, M. abductor brevis minimi digiti.</p> <p>51, branch of the tendon M. extensor proprius tertii digiti (S.-D.). terminating upon that of the M. extensor proprius indicis.</p> <p>52, a portion of the tendon of M. extensor proprius minimi digiti terminating upon the cartilage 53, con-</p> | <p>tained in the V. metacarpo-phalangian capsule.</p> <p>60, Lig. capsulare V-metacarpo-phalangiale (S.-D.).</p> <p>61, Lig. V-metacarpo-phalangiale externum (S.-D.).</p> <p>62, Lig. V-metacarpo - sesamoideum externum (S.-D.).</p> <p>63, Lig. sesamo-phalangiale externus (S.-D.).</p> <p>64, O. sesamoideum externum.</p> <p>65, tendon of the M. extensor profundus perforans.</p> <p>66, O. phalangis primi.</p> <p>67, Lig. interphalangianum primum externum, (S.-D.).</p> <p>68, O. phalangis secundi</p> <p>69, Lig. interphalangianum secundum externum, (S.-D.).</p> <p>70, O. phalangis tertii</p> |
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FIG. 5. *The parts forming the Humero-ulnar articulation, seen from in front.*

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| <p>1, Inferior extremity of Humerus ; <i>a</i>, bony arch of the internal part of this bone ; <i>b</i>, f. supra condyleum ; <i>c</i>, articular facet in which the p. coronoides fits ; <i>d</i>, the "epicondyle" ; <i>e</i>, the "epitrochlea" ; <i>cfy</i>, articular capsule.</p> | <p>2, the Ulna.</p> <p>3, the Radius.</p> <p>4, 5, 6, Lig. coronarium, (S.-D.) ; 4, its branch attached to the "epitrochlea" ; 5, that attached to the p. coronoides ; 6, the branch which is attached to the angle of the sigmoid cavity.</p> |
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FIG. 6. *The parts forming the Humero-ulnar articulation, seen from the outer side.*

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| <p>1, Inferior extremity of the Humerus.</p> <p>2, the "epicondyle".</p> <p>3, the "condyle".</p> <p>4, a portion of the Ulna.</p> <p>4', p. anconeus.</p> <p>5, a portion of the Radius ; <i>a</i>, p. bicipitalis, or "bicipital tuberosity".</p> | <p>6, Lig. humero-ulnare latero-externum, (S.-D.).</p> <p>7, Lig. humero-radiale latero-externum, (S.-D.).</p> <p>8, Lig. coronarium, (S.-D.) ; <i>a</i>, the branch attached to the "epicondyle" ; <i>g</i>, the branch coming from the external angle of the lower sigmoid cavity.</p> |
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FIG. 7. *The left fore arm and hand (antebrachium et manus), with the fingers (digiti) entirely extended and separated from such other, anterior surface, and showing the first layer of muscles.*

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| <p>1, The inferior part of <i>M. biceps</i>.
 2, a part of <i>M. claviculo-deltoides</i>, (S.-D.).
 3, a part of <i>M. brachialis</i> (anterior).
 4, <i>M. cercialis</i>, (S.-D.).—<i>M. palmaris magnus</i>.
 5, <i>M. pronator radii teres</i>.
 6, 6', <i>M. radialis primus</i>.
 6'', " <i>radialis secundus</i>.
 7, " <i>extensor communis digitorum</i>; <i>a, b, c, d</i>, its several branches; <i>e, f, g, h</i>, cartilaginous disks contained in the articular (metacarpo-phalangeal) capsules.
 8, 8', <i>M. extensor proprius tertii digiti</i>, (S.-D.).
 9, 9', <i>M. extensor proprius quarti digiti</i>, (S.-D.).
 10, 10', <i>M. extensor proprius digiti minimi</i>.
 11, <i>M. ulnaris</i> (externus), (S.-D.); 12, termination of its tendon.
 13, <i>Lig. hypothenete-metacarpale dorsale</i>, (S.-D.).
 14, 14', <i>M. adductor longus pollicis</i>, (S.-D.).
 15, <i>Lig. annulare carpi anterior</i>.
 16, prominence which makes the <i>p. styloideus</i> of the <i>Ulna</i>.
 17, 17', <i>M. extensor pollicis longus</i>;</p> | <p><i>b</i>, cartilaginous granule in the metacarpo-phalangeal capsule of the same finger;
 17', foliaceous branch of the tendon which is spread out upon the <i>O. metacarpale secundum</i>.
 18, <i>O. metacarpale primum</i> (-I metacarpale).
 19, <i>O. sesamoideum internum pollicis</i>.
 20, " <i>primi phalangis</i> (pollicis).
 21, " <i>secundi phalangis</i> (pollicis), with its claw.
 22, 22', tendon of <i>M. extensor proprius indicis</i>.
 23, <i>O. metacarpale secundum</i>.
 24, <i>M. adductor minimi digiti medius</i>, (S.-D.).
 25, <i>Lig. infraphalangiale profundum communum digitorum</i>, (S.-D.).
 26, <i>Oo. primi phalangis</i> (digitorum).
 27, enlargement of the extensor tendons of the digits covering the primal interphalangeal articulations.
 28, <i>Oo. secundi phalangis</i> (digitorum).
 29, claws—<i>Ungues</i>.
 30, dermal expansion forming a broad web between the digits, which is prolonged thence to form the hood-like fold <i>ab</i>, which covers the claws.</p> |
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FIG. 8. *The same parts of the anterior limb exhibiting the second layer of muscles.*

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| <p>1, The <i>Humerus</i>; <i>a</i>, its perforation.
 2, humero-ulnar capsule.
 3, <i>M. pronator radii teres</i>.</p> | <p>4, <i>M. supinator brevis</i>.
 5, (" <i>cercialis</i> (S.-D.)) <i>M. palmaris magnus</i>.</p> |
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- 6, 6', **M. adductor longus pollicis**, (S.-D.).
- 7, 7', **M. extensor pollicis longus**.
- 8, inferior extremity of the **Radius**.
- 9, radio-carpal capsule.
- 10, inferior extremity of the **Ulna**.
- 11, its p. **styloideus**.
- 12, **Lig. ulno-radiale inferius**, (S.-D.).
- 13, " **annulare carpi anterius**.
- 14, " **scapho-trapezoideum dorsale**, (S.-D.).
- 15, **O. trapezium**.
- 16, " **trapezoides**.
- 17, **Lig. trapezoido-I metacarpale dorsale**, (S.-D.).
- 18, **Lig. trapezoido-II metacarpale dorsale**, (S.-D.).
- 19, **Lig. II-III metacarpale dorsale**, (S.-D.).
- 20, **Lig. magno-III metacarpale dorsale**, (S.-D.).
- 21, **Lig. III-IV metacarpale dorsale**, (S.-D.).
- 22, **M. extensor proprius indicis**; *a*, branch coming from the tendon of the **M. extensor proprius tertii digiti**, (S.-D.); *c*, branch terminating there; *b*, little branch terminating on the cartilaginous plate of the metacarpophalangeal capsule.
- 23, **M. extensor proprius tertii digiti**, (S.-D.).
- 24, **M. extensor proprius quarti digiti**, (S.-D.).
- 25, **M. extensor proprius minimi digiti**.
- 26, **Lig. hypothenate-metacarpale dorsale**, (S.-D.).
- 27, **M. adductor medius minimi digiti**.
- 28, **O. metacarpale primum** (-I metacarpale).
- 29, **O. sesamoideum internum pollicis**.
- 30, " **phalangis primi (pollicis)**.
- 31, " **phalangis secundi (pollicis)**; *a*, its claw.
- 32, **Lig. elastico-extensum internum II phalangis pollicis**, (S.-D.).
- 33, **Lig. elastico-extensum medium II phalangis-pollicis**, (S.-D.).
- 34, 35, 36, 37, **Lig. capsulares metacarpo-phalangiales**, (S.-D.), containing at the middle a little cartilaginous plate; *a*, an odd ligament attaching the latter to the first phalanx; *b*, tendinous branch joining it from the tendons of the **Mm. extensores communis et proprii**.
- 38, **M. adductor medius indicis**, (S.-D.).
- 39, **O. metacarpale secundum**.
- 40, **M. adductor medius tertii digiti**, (S.-D.).
- 41, **O. intercarpale tertium**.
- 42, **M. adductor quarti digiti longus** (S.-D.).
- 43, **O. metacarpale quartum**.
- 44, **M. abductor brevis quarti digiti**, (S.-D.).
- 45, **O. metacarpale quintum**.
- 46, **Lig. elastico-extensum internum tertii phalangis**, (S.-D.).
- 47, **Lig. elast. exten. externum tertii phalangis**, (S.-D.).
- 48, **Lig. elast. exten. medium tertii phalangis**, (S.-D.).
- 49, enlargement of the tendons of the **Mm. extensores digiti**; *b*, a portion of that of the **M. extensor communis**.
- 50, **Lig. infra phalangiale profundum communum digitorum** (S.-D.).

FIG. 9. *The left antebrachium and manus with the digiti strongly separated, posterior view.*

- 1, Inferior extremity of the **Humerus**.
- 2, **p. anconeus**.
- 3, **M. ulnaris externus**.
- 4, first head of **M. flexor profundus perforans**.
- 5, 5', **M. ulnaris internus**.
- 6, 6', " **flexor sublimis**;
a, b, c, d, e, the branches of its tendon terminating upon the five digits;
f, branch of the second tendon running into the "ball".
- 7, The third head of the **M. flexor profundus perforans**.
- 8, Inferior extremity of the **Ulna**.
- 9, **M. flexor proprius minimi digiti**, (S.-D.).
- 10, Inferior extremity of the **Radius**.
- 11, **Lig. annulare carpi posterius**.
- 12, "hypothénar" eminence.
- 13, **Lig. ulno-hypothénète**, (S.-D.).
- 14, root of the **Lig. annulare carpi posterius** which arises upon the hypothénar eminence and constitutes the **Lig. scapho-hypothénète**, (S.-D.).
- 15, **M. adductor brevis pollicis**, (S.-D.).
- 16, " " **medius** " (S.-D.).
- 17, " **abductor** " **minimi digiti**, (S.-D.).
- 18, **M. abductor brevis minimi digiti**, (S.-D.).
- 19, **Lig. annulare sesamoideum pollicis**.
- 20, Tendon of the **M. flexor profundus perforans**.
- 21, enlargement of the **Lig. infraphalangiale-commune pollicis et indicis**, (S.-D.).
- 22, Tendon of the **M. profundus pollicis**, (S.-D.).
- 23, **O. primi phalangis (pollicis)**.
- 24, **M. adductor indicis**.
- 25, **Lig. infraphalangiale-commune pollicis et indicis**, (S.-D.).
- 26, **M. lumbricalis tertii digiti**.
- 27, Tendon of the **M. flexor profundus perforans**.
- 28, **M. lumbricalis quarti digiti**.
- 29, Tendon of **M. flexor profundus perforans**.
- 30, **Lig. infraphalangiale superficialis digitorum**; *a*, external branch attached to the **O. sesamoideum externum min.-digiti**; *b*, external branch inserted into the external side of **O. primi phalangis minimi digiti**, *c*, internal branch inserted into the **O. sesamoideum internum indicis**; *d*, second internal branch inserted upon the internal side of **O. I phalangis**.
- 36, The Palm, or ball of the hand "**Pelote**", (S.-D.).
- 37, **Oo. primi phalangis**.
- 38, **Lig. annulare infraphalangiale**.
- 39, **Oo. secundi phalangis**.
- 40, claws, (unguines).
- 41, "**Pelotines**", (S.-D.).

FIG.. 10. *The antebrachium and manus, posterior view, showing the second layer of the ligaments and muscles.*

- 1, The inferior extremity of the **Humerus**.
- 2, **p. anconeus**.
- 3, The "**Epitrochlea**".
- 4, The "**Epicondyle**".
- 5, **Lig. coronarium**, (S.-D.).
- 6, " **humero-ulnare latero-externum**, (S.-D.).
- 7, first head of **M. flexor profundus perforans**.
- 8, Medium part of **Ulna**.
- 9, Second head of **M. flexor profundus perforans**
- 10, **M. flexor sublimis**.
- 11, Third head of **M. flexor profundus perforans**.
- 12, Inferior extremity of the **Ulna**.
a, its **p. styloideus**.
- 13, Inferior head of the **Radius**.
- 14, **Lig. annulare carpi posterius cut.**
- 15, Prominence of **O. pisiforme**.
- 16, **Lig. ulno-pisiforme**, (S.-D.).
- 17, Part of the tendon of **M. ulnaris** (S.-D.).
- 18, 18', **Mm. flexores proprii minimi digiti** (S.-D.).
- 19, **M. flexor proprius quarti digiti** (S.-D.).
- 20, Tendon of **M. profundus pollicis** (S.-D.).
- 21, **M. adductor brevis pollicis** (S.-D.).
- 22, " " **medius minimi digiti** (S.-D.).
- 23, **Lig. infraphalangiale pollicis** (S.-D.).
- 24, Common tendon of **M. flexor sublimis** beneath the **Lig. annulare carpi posterius**; *a*, *b*, *c*, *d*, *e*, its five branches.
- 25, **O. sesamoideum internum pollicis**.
- 26, **M. abductor brevis minimi digiti**, (S.-D.).
- 27, **Mm. adductores longi et brevis minimi digiti** (S.-D.).
- 28, **M. lumbricalis** (min. dig.).
- 29, " " (quart. dig.).
- 30, Tendon of **M. flexor profundus perforans**.
- 31, **M. lumbricalis**, (tert. dig.).
- 32, " **abductor secundi digiti**,
- 33, " **lumbricalis**, (sec. dig.).
- 34, 35, 36, 37, **Ligs. annulares sesamoideum digiti**.
- 39, 40, 41, 42, Fibrous ligaments proceeding from the outer branches of **M. flexor sublimis** and penetrating into the "**pad**" *a*, *β*, *γ*, *δ*, where they are implanted in the integument.
- 43, **M. adductor medius indicis** (S.-D.).
- 44, Branch of the tendon of **M. flexor sublimis** which is inserted upon **O. sesamoideum internum indicis**.
- 45, **Lig. infraphalangiale** (commune pollicis et indicis).
- 46, **O. secundi phalangis pollicis**.
- 47, Branch of the tendon of **M. flexor sublimis**, which is blended with the **Lig. annulare sesamoideum minimi digiti**, (S.-D.).
- 48, **O. tertii phalangis pollicis**,
- 49, 50, 51, 52, 53, **Lig. infraphalangiale profundum**, common to the digits.
- 54, **Oo. secundi phalangis**.
- 55, " **tertii** "
a, *β*, *γ*, *δ*, outline of the "**pad**".

FIG. 11. *The same parts of the anterior limb, showing posterior surface, and exposing the third layer of muscles.*

- 1, 2, 3, The inferior part of **Humerus**.
- 4, **p. anconeus**.
- 5, 6, **Lig. coronarium** (S.-D.); 5, its external humeral branch; 6, its external ulnar branch.
- 7, Angle of the sigmoid cavity of the **Ulna**.
- 8, Head of the **Radius**.
- 9, Inferior extremity of same; *a*, its head;
- 10-12, several heads of the **M. flexor profundus perforans**; 10, 10', the first head; 11, 11', second head; 12, 12', third head.
- 13, 13', **M. flexor proprius tertii digiti**, (S.-D.).
- 14, 14', **M. flexor proprius secundi digiti** (or **indicis**) (S.-D.).
- 15, 15', First head of **M. flex. prop. quart. dig.** (S.-D.).
- 16, Inferior extremity of **Ulna**; *a*, its **p. styloideus**.
- 17, 18, 19, **Lig. annulare carpi posterius**;
- 17, its ulnar root; 18, open groove for the **M. flexor sublimis**.
- 20, Tip of **O. pisiforme**.
- 21, **Lig. ulno-pisiforme** (S.-D.).
- 22, Second head of **M. flexor proprius quart. dig.** (S.-D.).
- 23, Deep inferior part of the **Lig. annulare carpi posterius**.
- 24, Common trunk of **M. flex. prop. quart. dig.**
- 25, **M. flexor proprius minimi digiti** (S.-D.).
- 26, **Lig. pisi-V metacarpale** (S.-D.).
- 27, **Lig. pisi-IV metacarpale** (S.-D.).
- 28, **M. adductor brevis pollicis** (S.-D.).
- 29, **O. sesamoideum internum pollicis** and its **Lig. annulare**.
- 30, **O. primi phalangis pollicis**.
- 31, Branch of the tendon of **M. flexor profundus perforans** running to the pollex.
- 32, **M. abductor medius pollicis** (S.-D.).
- 33, **Mm. adductores longus et brevis minimi digiti**, (S.-D.).
- 34, **M. abductus brevis min. dig.** (S.-D.).
- 35, **M. lumbricalis (indicis)**.
- 36, " " (min. dig.).
- 37, " " (tert. ").
- 38, " " (quart. ").
- 39, The common enlarged part of the tendon of the **M. flexor profundus perforans**; 40.
- 40, its branch terminating upon the second digit.
- 41, branch for the third digit;
- 42, " " " fourth " ;
- 43, **Lig. infraphalangiale (commune pollicis et indicis)**.
- 44, Cut tendons of **M. flexor sublimis**.
- 45, **Mm. abductores indicis**.
- 46, **M. adductor medius indicis** (S.-D.).
- 47, " **abductor longus quarti digiti**. (S.-D.).
- 49, Enlargements of the tendons of **M. flexor sublimis** forming sheaths for the tendons of **M. flexor profundus perforans**.
- 50, **Ligs. annulares sesamoideum** cut open.
- 51, **Lig. infraphalangiale**.
- 52, **secundi phalangis**.
- 53, tendons of **M. flexor profundus perforans**.
- 54, **Oo. tertii phalangis**.

FIG. 12. *Same part as Fig. 11, showing the fourth layer of muscles.*

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| <p>1, 1', Ulna; <i>a</i>, its p. anconeus; <i>bc</i>, the groove of the greater sigmoid cavity; <i>d</i>, prominence of the lesser sigmoid groove; 1', inferior extremity of same bone forming the p. styloideus.</p> <p>2, Radius; 2', its inferior head.</p> <p>3, apon. brachialis profundus.</p> <p>4-7, M. flexor profundus perforatus;</p> <p>4, 4', fifth head;</p> <p>5, cut tendon of the fourth;</p> <p>6, that of the first;</p> <p>6', that of the second;</p> <p>7, that of the third.</p> <p>8, First head of M. flexor proprius. (quart. dig.) (S.-D.).</p> <p>9, M. flex. prop. tert. dig. (S.-D.).</p> <p>10, M. flexor proprius indicis, (S.-D.).</p> <p>11, Tendon of M. palmaris magnus.</p> <p>12, Tip of O. pisiforme.</p> <p>13, Lig.- pisi-IV metacarpale, (S.-D.).</p> <p>14, " " -V " (S.-D.).</p> <p>15, M. adductor brevis pollicis (S.-D.)</p> <p>16, Lig. infraphal. com. poll. et ind. (S.-D.).</p> <p>17, M. abductor brevis min. dig. (S.-D.).</p> <p>18, Mm. adductores longus et brevis min. dig. (S.-D.).</p> <p>19, The common inferior part of the ten-</p> | <p>don of M. flexor profundus perforans; <i>a</i>, tendonous branch running to the thumb, <i>b, c, d, e</i>, the four others running to the digits.</p> <p>20, Lig. annulare infraphalangiale pollicis, (S.-D.).</p> <p>21, M. lumbricalis indicis.</p> <p>22, " adductor medius indicis (S.-D.).</p> <p>23, " abductor " " (S.-D.).</p> <p>24, " adductor " tertii digiti (S.-D.).</p> <p>25, Mm. abductores tertii digiti (S.-D.).</p> <p>26, " adductores quarti digiti. (S.-D.).</p> <p>27, Mm. abductores quarti digiti (S.-D.).</p> <p>28, M. adductor minimi, (S.-D.).</p> <p>36, 37, 38, Enlargements of the tendons of the M. flexor sublimis, forming sheaths for the tendons of M. flexor profundus perforans in the metacarpo-phalangeal articulations of the index, third and fourth digits.</p> <p>39, Ligs. annulare sesamoidei cut.</p> <p>40, Oo. secundi phalangis.</p> <p>41, Tendons of M. flexor profundus perforans under the Oo. primi et secundi phalangis.</p> <p>42, Ligs. annulares infraphalangiales.</p> <p>43, Oo. tertii phalangis.</p> |
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FIG. 13. *The same parts of the limb, as in last figure, showing the deepest layer of muscles.*

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| <p>1, 2, The Ulna; <i>a</i>, its p. anconeus;</p> <p><i>c</i>, the posterior crest of same bone;</p> <p><i>e</i>, the "sigmoid cavity"; 2, inferior head of the Ulna; <i>b</i>, the p. styloideus.</p> <p>3, 3', The Radius; <i>d</i>, its superior head;</p> | <p>3', its inferior extremity.</p> <p>4, 4', M. pronator radii quadratus.</p> <p>5, O. pisiforme.</p> <p>6, Tuberosity of magnum; <i>e</i>, Lig. pisi-magnum palmares (S.-D.).</p> <p>7, O. V. metacarpiale.</p> |
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| <p>8, O. primi phalangis pollicis.
 9, " secundi " "
 10, 11, 12, 13, Oo. primi phalangis (digitorum),
 14, 15, 16, 17, Oo. secundi phalangis (digitorum),
 18, 19, 20, 21, Oo. tertii phalangis (digitorum)
 22, apon. antebrachialis profundus, a, fascia attached to O. pisiforme; c, that attached to the O. scaphoideum; i, tendon of the M. (cercialis (S.-D.)) palmaris magnus.
 23, Lig. cuneiforme-V metacarpale palmare (S.-D.).
 24, Lig. scapho-unciforme palmare (S.-D.).
 25, Lig. scapho-magnum palmare internum (S.-D.).
 26, Lig. pisi-IV metacarpale (S.-D.).
 27, " " -V " (S.-D.).
 28, M. adductor brevis pollicis (S.-D.).
 29, " abductor medius " (S.-D.).
 30, " " longus quarti digiti (S.-D.).
 31, Mm. adductores longus et brevis quarti digiti (S.-D.).</p> | <p>32, M. adductor medius indicis (S.-D.).
 33, Mm. abductores longus et brevis indicis (S.-D.).
 34, Lig. infraphalangiale com. pol. et ind. (S.-D.); a, b, small fibro-cartilaginous disks.
 36, M. abductor longus indicis (S.-D.).
 37, " " medius " (S.-D.).
 38, " adductor " minimi digiti (S.-D.).
 39, M. opponens minimi digiti (S.-D.).
 42, " abductor longus tertii digiti (S.-D.).
 43, Mm. abductores longus et brevis quarti digiti (S.-D.).
 44, M. adductor longus quarti digiti (S.-D.).
 45, M. abductor brevis tertii digiti (S.-D.).
 46, M. adductor medius tertii digiti (S.-D.).
 47, Oo. sesamoides.
 48, Ligs. intersesamoidei (S.-D.).
 51, " sesamoidei obliqui (S.-D.).
 ("croises des s.").</p> |
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FIG. 14. *The Carpus with a portion of the antebrachium and metacarpus; dorsal view, showing the deep ligaments.*

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| <p>1, Inferior extremity of the Radius.
 2, " " " Ulna; a,
 Lig. interosseum ulno-radiale
 3, Fibrous groove of the brachium and antebrachium confining the tendons which run to the manus;
 a, tendon of M. adductor longus pollicis (S.-D.).
 b, tendon of Mm. radiales.
 c, " " M. extensor longus pollicis (S.-D.).</p> | <p>d, tendon of M. extensor proprius indicis.
 e, tendon of the Mm. extensores proprii of the outer digits.
 4, Internal tuberosity of O. scaphoideum.
 5, O. "phacoeideum",
 6, " trapezium.
 7, " trapezoideum.
 10, radio-carpal-capsule.
 11, Lig. trapezo-trapezoidem dors. (S.-D.).</p> |
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| <p>13, Lig. trapezoido-magnum dorsale (S.-D.).</p> <p>14, Lig. cunei-unciforme dorsale (S.-D.).</p> <p>15, Lig. trapezoido-II metacarpale dorsale (S.-D.).</p> <p>16, Lig. magno-unciforme dorsale (S.-D.).</p> <p>17, Lig. trapezo-II metacarpale dorsale (S.-D.).</p> <p>18, Lig. II-III metacarpale dorsale (S.-D.).</p> <p>19, Lig. magno-III metacarpale dorsale (S.-D.).</p> <p>20, O. magnum.</p> <p>Between 20 and 31, Lig. magno-IV, metacarpale dorsale (S.-D.).</p> <p>22, Lig. unciforme-V metacarpale dorsale (S.-D.).</p> | <p>23, O. unciforme.</p> <p>Between 20 and 31, Lig. unciforme-IV metacarpale dorsale (S.-D.).</p> <p>24, Lig. III-IV metacarpale dorsale (S.-D.).</p> <p>25, Lig. hypothernate III-IV-V metacarpale dorsale (S.-D.).</p> <p>28, O. I metacarpale.</p> <p>29, " II "</p> <p>30, " III "</p> <p>31, " IV "</p> <p>32, " V "</p> <p>33, Lig. II-III metacarpale interosseum.</p> <p>34, Lig. III-IV metacarpale interosseum.</p> <p>35, Lig. IV-V metacarpale interosseum.</p> |
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FIG. 15. *The same parts as above, showing the deepest ligaments.*

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| <p>1, A portion of the Radius, a, its inferior head;</p> <p>2, a portion of the Ulna; b, its p. styloideus.</p> <p>3, radio-carpal articular capsule.</p> <p>4, O. cuneiforme.</p> <p>5, " scaphoideum.</p> <p>6, " trapezium.</p> <p>7, " trapezoideum.</p> <p>8, " magnum.</p> <p>9, " unciforme.</p> <p>10, Lig. ulno-radiale inferius, (S.-D.).</p> <p>11, " radio-trapezeum internum, (S.-D.).</p> <p>12, Lig. scapho-trapezoideum dorsale, (S.-D.).</p> | <p>13, Lig. cunei-unciforme dorsale, (S.-D.).</p> <p>14, O. phacoidum.</p> <p>Outside 14, Lig. phaco-trapezeum, (S.-D.).</p> <p>15, O. I metacarpale.</p> <p>16, 17, 18, 19, superior part of the other four bones of the metacarpus.</p> <p>20, Lig. interosseum semiluno-cuneiforme, (S.-D.).</p> <p>21, Lig. magno-II metacarpale dorsale, (S.-D.).</p> <p>22, Lig. trapezo-I metacarpale dorsale, (S.-D.).</p> |
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FIG. 16. *The bones of the palm, front view, with the bones of the metacarpus slightly separated.*

A. the carpus.

- 1, **O. scapho-lunare**; *a, b, c, d*, the portion corresponding to the **O. scapho-ideum**; *b, d, f, e*, the portion corresponding to the **O. semilunare**.
- 2, **O. cuneiforme**.
- 3, " **phacoeideum**.
- 4, " **trapezeum**.
- 5, " **trapezoideum**.
- 6, " **magnum**.
- 7, " **unciforme**.

B. the metacarpus.

- 8, **O. I metacarpale**; *h*, **O. sesamoid-eum**.
- 9, **O. II metacarpale**; *i, o*, its superior head; *k*, its inferior head.
- 10, **O. III metacarpale**; *l, m*, its superior head; *n*, its inferior head.
- 11, **O. IV metacarpale**; *p, r*, superior head; *g*, inferior head.
- 12, **O. V metacarpale**; *s*, superior head; *t*, inferior head.

FIG. 17. *Inferior part of the antebrachium and palm, posterior surface, showing the deepest muscles and a portion of the ligaments.*

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| 1, Inferior extremity of the Radius . | 14, Lig. radio-pisiforme palmare , (S.-D.) |
| 2, " " " Ulna , | 15, " trapezo-magnum " " |
| <i>a</i> , its p. styloideus . | 16, tuberosity of O. magnum . |
| 3, Lig. interosseum ulno-radiale . | 18, Lig. pisi-IV metacarpale palmare , |
| 4, tip of O. pisiforme . | (S.-D.). |
| 5, Lig. scapho-I metacarpale palmare , | 19, Lig. pisi-V metacarpale palmare , |
| (S.-D.). | (S.-D.) |
| 6, Lig. radio-scaphoideum palmare , | 20, Lig. magno-IV metacarpale pal- |
| (S.-D.). | mare , (S.-D.). |
| 7, fascia of the apoh. antebrachialis profundus attached to the O. scapho-ideum passing in front of the tendon of | 24, O. I metacarpale . |
| 8, M. palmaris magnus . | 25, M. adductor medius indicis , (S.-D.). |
| 9, Lig. ulno-scaphoideum posterius , | 26, O. V metacarpale . |
| (S.-D.). | 27, " sesamoid-eum internum pollicis , |
| 10, Lig. pisi-trapezium palmare , (S.-D.). | 28, Oo. sesamoid-ei interni of the other |
| Between 10 and 11, Lig. pisi-unci- | digits. |
| forme palmare , (S.-D.). | 29, Oo. sesamoid-ei externi of other |
| Between 10 and 16, Lig. semiluno-mag- | digits. |
| num palmare , (S.-D.). | 30, Ligs. intersesamoid-ei , (S.-D.). |
| 11, O. unciforme . | 31, O. II metacarpale . |
| 12, margin of O. cuneiforme . | 32, Mm. adductores longus et brevis |
| 13, Lig. trapezo-I metacarpale palmare , | tertii digiti , (S.-D.). |
| (S.-D.). | 33, M. adductor medius tert. dig. , (S.- |
| | D.). |
| | 34, " abductor longus " " " |

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| 35, <i>Mm. adductores longus et brevis quarti dig.</i> , (S.-D.). | 36, <i>M. abductor longus quarti dig.</i> , (S.-D.). |
| 37, <i>M. abductor brevis tert. dig.</i> , (S.-D.). | |

FIG. 18. *The same carpus with a part of the antebrachium and of the metacarpus, posterior view, exposing a deeper layer of ligaments.*

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| 1, A portion of the <i>Radius</i> .
2, " " " " <i>Ulna</i> ; <i>a</i> , <i>p. styloideus</i> .
3, <i>O. phacoideum</i> .
4, groove of the internal tuberosity of the <i>O. scaphoideum</i> .
5, <i>Lig. scapho-pisiforme palmare</i> , (S.-D.).
6, tip of <i>O. pisiforme</i> .
7, fascia of the <i>apon. antibrachialis profunda</i> attached to the <i>O. scaphoideum</i> .
8, <i>Lig. radio-scaphoideum palmare</i> (S.-D.).
9, fibrous fascia, forming one of the inferior terminations of the <i>apon. antibrachialis</i> .
10, <i>Lig. ulno-cuneiforme externum</i> , (S.-D.).
11, <i>Lig. radio-pisiforme palmare</i> , (S.-D.).
12, " <i>cuneiforme-V metacarpale palmare</i> , (S.-D.).
13, <i>Lig. magno-unciforme palmare</i> , (S.-D.).
14, <i>Lig. cuneiforme-unciforme palmare</i> (S.-D.).
15, tuberosity of the <i>O. magnum</i> .
16, inferior tuberosity of <i>O. unciforme</i> .
17, <i>O. cuneiforme</i> . | 18, <i>Lig. magno-III metacarpale palmare</i> , (S.-D.).
19, <i>Lig. trapezo-I metacarpale palmare</i> (S.-D.).
20, <i>Lig. I-II metacarpale palmare</i> , (S.-D.).
21, tuberosity of the head of <i>O. II metacarpale</i> .
22, a portion of <i>Lig. pisi-IV metacarpale</i> .
23, extremity of the tendon of <i>M. palmaris magnus</i> .
24, <i>O. I metacarpale</i> .
25, 26, 27, 28, portions of <i>Oo. II, III-IV et V metacarpales</i> .
29, <i>Lig. scapho-I metacarpale palmare</i> , (S.-D.).
30, <i>Lig. scapho-II metacarpale palmare</i> , (S.-D.).
31, <i>Lig. arcuatum palmare II-III metacarpale</i> , (S.-D.).
32, <i>Lig. III-IV metacarpale palmare</i> , (S.-D.).
33, <i>Lig. unciforme-III metacarpale palmare</i> , (S.-D.).
34, <i>Lig. unciforme-IV metacarpale palmare</i> , (S.-D.).
35, <i>Lig. unciforme-V metacarpale palmare</i> , (S.-D.). |
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FIG. 19. *Posterior surface of the carpus and portions of the metacarpus, less O. pisiforme, exposing the deepest ligaments.*

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| 1, 1', <i>O. scapho-lunare</i> ; 1 corresponds to <i>O. scaphoideum</i> (anthrop.), 1' | corresponds to <i>O. semilunare</i> (anthrop.). |
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| <p>2, <i>O. cuneiforme</i>.
 3, " <i>phacoideum</i>.
 4, " <i>trapezium</i>.
 Between 4 and 20, <i>Lig. trapezo-I</i>
 <i>metacarpale palmare</i>, (S.-D.).
 5, tuberosity of <i>O. magnum</i>.
 6, " " " <i>unciforme</i>.
 7, <i>Lig. interosseum semiluno-unci-</i>
 <i>forme</i>, (S.-D.).
 8, <i>Lig. scapho-trapezeum palmare in-</i>
 <i>ternum</i>, (S.-D.).
 9, <i>Lig. scapho-trapezeum palmare ex-</i>
 <i>ternum</i>, (S.-D.).
 10, <i>Lig. semiluno-unciforme palmare</i>,
 (S.-D.).
 11, <i>Lig. cuneiforme-unciforme palmare</i>,
 (S.-D.).</p> | <p>12, <i>Lig. magno-unciforme palmare</i>, (S.-
 D.).
 13, <i>Lig. trapezo-I metacarpale palmare</i>,
 (S.-D.).
 14, <i>Lig. trapezo-II metacarpale pal-</i>
 <i>mare</i>, (S.-D.).
 15, <i>Lig. magno-III metacarpale pal-</i>
 <i>mare</i>, (S.-D.).
 16, <i>Lig. III-IV-V metacarpale palmare</i>,
 (S.-D.).
 17, <i>Lig. IV-V metacarpale palmare</i>.
 (S.-D.).
 18, <i>Lig. III-IV metacarpale palmare</i>,
 (S.-D.).
 19, <i>Lig. II-III metacarpale palmare</i>,
 (S.-D.).
 20, 21, 22, 23, 24, portions of the <i>Oo.</i>
 <i>metacarpales</i>.</p> |
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FIG. 20. *The bones of the palm with the Oo. metacarpales slightly separated, viewed from behind.*

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| <p>A. The carpus.
 1, <i>O. scapho-lunare</i>, <i>a, d, e</i>, the scaphoid
 portion; <i>a</i>, internal tuberosity; <i>b, c</i>,
 <i>d, e</i>, semilunar portion.
 2, <i>O. cuneiforme</i>.
 3, " <i>pisiforme</i>.
 4, " <i>phacoideum</i>.
 5, " <i>trapezeum</i>.
 6, " <i>trapezoideum</i>.
 7, " <i>magnum</i>.
 8, " <i>unciforme</i>.
 B. The metacarpus.</p> | <p>9, <i>O. primum (I) metacarpale</i>;
 <i>c</i>, its <i>O. sesamoideum internum</i>.
 10, <i>O. secundum (II) metacarpale</i>; <i>f</i>,
 its superior head; <i>g</i>, its inferior head.
 11, <i>O. tertium (III) metacarpale</i>;
 <i>h</i>, its superior head; <i>i</i>, its inferior
 head.
 12, <i>O. quartum (IV) metacarpale</i>;
 <i>k</i>, superior, and <i>l</i>, inferior heads.
 13, <i>O. quintum (V) metacarpale</i>; <i>m</i>, su-
 perior, and <i>n</i>, inferior heads.</p> |
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FIG. 21. *A digit with its Ossa sesamoides and a portion of the Oo. metacarpale, viewed from the external side.*

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| <p>1, Inferior portion of the <i>O. metacar-</i>
 <i>pale</i>.
 2, <i>O. sesamoideum externum</i>.</p> | <p>3, <i>Lig. metacarpo-sesamoideum ex-</i>
 <i>ternum</i>, (S.-D.).
 4, <i>Lig. capsulare</i> (metacarpo-phalangiale).</p> |
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| <p>5, Lig. III metacarpale phalangiale externum, (S.-D.).</p> <p>6, Lig. sesamoido-phalangiale externum, (S.-D.).</p> <p>7, Lig. annulare sesamoideum.</p> <p>8, O. primi phalangis (—digiti).</p> <p>9, Lig. annulare infraphalangiale, (S.-D.).</p> <p>10, Lig. interphalangiale primum externum, (S.-D.).</p> <p>11, O. secundi phalangis:</p> <p>12, terminal part of the tendon of the <i>M. extensor communis digitorum</i>,</p> | <p>13 Lig. elastico-extensum medium secundi phalangis, (S.-D.).</p> <p>14, Lig. elastico-laxatum tendinis profundce, (S.-D.).</p> <p>15, portion of the tendon of <i>M. flexor profundus perforans</i>.</p> <p>16, Lig. interphalangiale secundum externum.</p> <p>17, bony fold of the O. tertii phalangis covering the base of the claw, 18.</p> <p>18, claw (<i>Unquis</i>.)</p> |
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FIG. 22. *The same digit, inner side.*

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| <p>1, Inferior portion of the O. metacarpale.</p> <p>2, O. sesamoideum internum.</p> <p>3, Lig. metacarpo-sesamoideum internum.</p> <p>4, Lig. capsulare metacarpo-phalangiale.</p> <p>5, Lig. II metacarpale-phalangiale internum.</p> <p>6, Lig. sesamoido phalangiale.</p> <p>7, " annulare sesamoideum.</p> <p>8, O. primi phalangis.</p> <p>9, Lig. annulare infra phalangiale.</p> <p>10, " interphalangiale primum internum, (S.-D.).</p> | <p>11, O. secundi phalangis.</p> <p>12, A portion of the tendon of <i>M. extensor communis digitorum</i>.</p> <p>13, Lig. elastico extensum internum tertii-phalangis (S.-D.).</p> <p>14, Terminal portion of the tendon of <i>M. flexor profundus perforans</i>;</p> <p>15, the prominence upon the base of the O. tertii phalangis.</p> <p>16, Lig. interphalangiale secundum internum.</p> <p>17, the claw of <i>Unquis</i>.</p> |
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Plate X.

FIG. 1. *The haunch and thigh of the right side, inside view, showing the first layer of muscles.*

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| <p>1, Blade of flat portion of the O. ilium showing the <i>fossa iliaca interna</i>; <i>a</i>, rough surface where the ilio-sacral ligaments are attached.</p> <p>2, ilio-sacral articulation facet.</p> | <p>3, 4', Crest of the O. ilium forming the prominence of the haunch.</p> <p>5, <i>M. ilio caudalis</i>, (S.-D.).</p> <p>6, O. ilium.</p> <p>7, <i>M. pubio caudalis</i> (S.-D.).</p> |
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| <p>8, 8', M. obturator internus.
 9, a portion of the perinæum.
 10, Part of the M. ischio-cavernosus
 11, The "ilio-pectineal eminence."
 12, The abdominal branch of the O. pubis.
 13, Symphysis of the Oo. pubes, and of the Oo. ischii,
 14, O. ischium.
 15, M. psoas, (S.-D.); 15', its iliac head.
 16, the cut tendon of M. psoas parvus.
 17, The superficial sheet of the apon. cruralis, covering M. sartorius and M. gracilis, united.
 18, M. promeralis, (S.-D.).
 18, " vastus internus.</p> | <p>20, 20', M. prismaticus, (S.-D.).
 21, Inferior part of M. curvatus (S.-D.).
 22, 22', M. semi-membranosus; <i>a</i>, its apon. of origin, where also it gives insertion to the opposed muscle.
 23, superior part of M. curvatus, (S.-D.).
 24, 25, M. arcuatus, (Str.-Dur.).
 26, M. semitendinosus.
 27, tendon of Mm. sartorius and gracilis attached to the patella, and the Lig. patellæ.
 28, Fibrous interval between the Mm. gracialis and semimembranosus, formed by the apon. cruralis superficialis.
 29, apon. tibialis superficialis.
 30, M. gastrocnemius (internus), (S.-D.).</p> |
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FIG. 2. *The same region as in last figure, exhibiting the second layer of muscles.*

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| <p>1, Fossa iliaca interna; <i>a</i>, the rough part as above.
 2, ilio-sacral articular facet.
 3, M. ilio-caudalis, (S.-D.).
 4, " ischio-caudalis, (S.-D.).
 5, ischiatic spine.
 6, eminentia ilio-pectinea.
 7, Point, corresponding to the centre of the fos. cotyloidea.
 8, Symphysis of the Oo. pubis, and O-ischii.
 9, 9', 9'', M. obturator internus.
 10, tuber ischii.
 11, apon. "fascia-lata" at the inner part of the thigh covering the M. vastus internus.
 12, M. promeralis, (S.-D.).
 13, " vastus externus.
 14, " pectinalis.</p> | <p>15, 15', M. prismaticus, (S.-D.).
 16, M. curvatus, (S.-D.), 16', its tendon of origin; <i>a</i>, adherence between the two opposed muscles.
 17, 17', M. arcuatus (Str.-Dur.), <i>a</i>, the tendon of the second head attached to the internal condyle of the Femur, and to the head of the Tibia.
 18, femoro-tibial capsule.
 19, M. semitendinosus; <i>a</i>, its terminal tendon.
 20, section of the common tendon of the extensor muscles of the leg, "
 21, second sheet, cut, of the apon. tibialis.
 22, M. poplitæus.
 23, " gastrocnemius (internus) (S.-D.).
 24, the Tibia.
 25, M. tibialis anticus.</p> |
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FIG. 3. *The same haunch with all the right posterior limb, viewed from inner side, showing the third layer of muscles.*

- 1, **Fossa iliaca interna.**
- 2, **Ilio-sacral articular facet,**
- 3, **The interpubic and interischadic symphyses.**
- 4, **M. obturator externus; a, trochanter** (Chaus.), **greater trochanter, p. trochanteris major.**
- 5, **M. promeralis, (S.-D.).**
- 6, " **pectinalis.**
- 7, " **cruralis, (S.-D.).**
- 8, " **subcruralis (Albinus).**
- 9, **Femur.**
- 10, 10', **M. biceps cruris.**
- 11, **O. crithoideum internum, (S.-D.).**
- 12, **Lig. femoro-crithoideum internum, (S.-D.).**
- 13, **Lig. patella-crithoideum internum, (S.-D.); a, the Patella.**
- 14, **M. gastro-cnemius (internus, (S.-D.).)**
- 15, **Lig. femoro tibiale latero internum, (S.-D.).**
- 16, **Lig. capsulare femoro-tibiale.**
- 17, **Head of the Tibia.**
- 18, **Diaphysis of same bone; 18', its inferior head.**
- 19, **M. poplitæus.**
- 20, **M. fusiformis, (S.-D.).**
- 21, " **gastro cnemius externus, (S.-D.).**
- 22, " **tibialis anticus.**
- 23, " **flexor longus hallucis.**
- 24, **Lig. annulare cruris.**
- 25, **M. tibialis posticus.**
- 26, " **perodactyleus (Riolan). (-flexor longus dig. ped. profund. perforans).**
- 27, **M. soleus.**
- 28, **O. calcis; 28', the "tuber calcis",**
- 29, **Internal frenum of the tendon of (M. plantaris), M. fusiformis, (S.-D.).**
- 30, **The "pulley" of the Astragalus.**
- 31, **Its p. navicularis.**
- 32, **Lig. astragalo-naviculare dorsale (S.-D.).**
- 33, **O. naviculare.**
- 34, **Lig. tibio-calcaneum latero-internum profundum, (S.-D.).**
- 35, 41, **Lig. naviculo-epitrium dorsale, (S.-D.).**
- 36, **O. epitrium, (Str.-Dur.).**
- 37, **Superior extremity of the O. chalcoidium, (S.-D.).**
- 38, **Lig. naviculo-II metatarsale dorsale, (S.-D.).**
- 39, **Lig. chalcoidio-II metatarsale plantare, (S.-D.).**
- 40, **M. accessorius perodactylei.**
- 42, **Lig. I-II metatarsale dorsale, (S.-D.).**
- 43, " **chalcoidio-II metatarsale dorsale.**
- 44, **Lig. epitrio-II metatarsale dorsale, (S.-D.).**
- 45, **metatarsale bones;**
 a', **O. primum (I) metatarsale;**
 b, " **secundum (II) "**
 c, " **tertium (III) "**
- 46, **Lig. annulare infraphalangiale digipedis, (S.-D.).**
- 47, **M. adductor medius secundi digiped; c, the two branches of its tendon.**
- 48, **Mm. lumbricales.**
- 49, 49', **The four branches of the M. perodactyleus (Riolan).**
- 50, **The II metatarso-phalangeal capsule**
- 51, **The second toe, (secundus digitus pedis).**
- 52, **The third toe, (tertius digitus pedis)**

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| 53, The fourth toe, (<i>quartus digitus pedis</i>).
54, <i>Lig. interphalangiale primum internum</i> , (S.-D.). | 55, <i>O. tertii phalangis</i> ,
56, <i>Lig. interphalangiale secundum internum</i> , (S.-D.). |
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FIG. 4. *The knee joint, the leg and the foot, inner view, showing the ligaments and deeper muscles.*

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| 1, Inferior extremity of the <i>Femur</i> .
2, The <i>Patella</i> .
3, <i>O. crithoideum internum</i> .
4, <i>Lig. femoro-crithoideum internum</i> . (S.-D.).
5, Origin of the <i>M. gastrocnemius internus</i> (S.-D.) upon the <i>O. crithoideum</i> of the same side.
6, <i>Lig. patello-crithoideum internum</i> , (S.-D.).
7, <i>O. poplitæum</i> , (Str.-Dur.).
8, external condyle of the head of the tibia.
9, <i>Lig. femoro-tibiale latero-externum</i> , (S.-D.).
10, <i>Lig. patellæ</i> .
11, " <i>adiposum</i> , (Str.-Dur.).
12, The <i>Tibia</i> ; <i>a</i> , its angle; <i>b</i> , <i>c</i> , internal condyle; <i>d</i> , its inferior head forming the <i>malleolus internus</i> .
13, <i>M. tibialis posticus</i> .
14, " <i>solæus</i> .
15, <i>Perodactylæus</i> (Riolan).
16, Groove of the <i>Tibia</i> in which the tendon of <i>M. tibialis posticus</i> glides.
17, <i>O. calcis</i> ; 17', its p. talus.
18, <i>Lig. calcaneo-naviculare internum</i> , (S.-D.).
19, p. <i>navicularis</i> of the <i>Astragalus</i> .
20, The posterior extremity of its pulley.
21, <i>Lig. tibio-astragaleum laterale</i> (S.-D.). | 22, <i>Lig. astragalo-calcaneum internum</i> , (S.-D.).
23, <i>Lig. astragalo-naviculare dorsale</i> , (S.-D.).
24, 24', <i>O. naviculare</i> ; 24', its internal tuberosity (<i>tuber internum</i>).
25, <i>Lig. naviculo chalcoides plantare internum</i> , (S.-D.).
26, superior head of <i>O. chalcoides</i> .
27, <i>O. epitrium</i> , (S.-D.).
28, <i>Lig. naviculo-epitrium dorsale</i> , (S.-D.).
29, <i>O. "cuneiforme"</i> . (S.-D.),
30, <i>Lig. chalcoides-cuneiforme dorsale</i> , (S.-D.).
31, <i>Lig. I-II. metatarsale dorsale</i> , (S.-D.).
32, <i>Lig. chalcoides-II metatarsale dorsale</i> , (S.-D.).
33, <i>Lig. epitrio-II metatarsale dorsale</i> , (S.-D.).
34, <i>Lig. epitrio-II metatarsale dorsale brevis</i> , (S.-D.).
35, The <i>Metatarsus</i> , <i>a</i> , <i>O. primum</i> (I) <i>metatarsale</i> ; <i>b</i> , <i>O. secundum</i> (II) <i>metat.</i> ; <i>c</i> , <i>O. tertium</i> (III) <i>metat.</i> ; <i>d</i> , <i>O. quartum</i> (IV) <i>metat.</i> ; <i>e</i> , <i>O. quintum</i> (V) <i>metatarsale</i> .
36, <i>Lig. II metatarsale-sesamoideum internum digitorum pedis</i> , (S.-D.).
37, <i>Lig. II metatarsale-phalangiale internum</i> , (S.-D.). |
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| 38, <i>Lig. sesamoido-phalangiale internum</i> , (S.-D.).
39, <i>O. primi phalangis</i> .
40, <i>Lig. interphalangiale primum internum</i> , (S.-D.).
41, <i>O. secundi phalangis</i> . | 42, <i>Lig. interphalangiale secundum internum</i> , (S.-D.).
43, <i>Oo. tertii phalangis</i> .
44, <i>Lig. capsulare-II metatarsale-phalangiale</i> , (S.-D.). |
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FIG. 5. *The parts forming the left femoro-tibial articulation, viewed from behind.*

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| 1, Inferior part of the Femur .
2, <i>Lig. femoro-crithoideum-externum</i> , (S.-D.).
3, <i>Lig. femoro-crithoideum-internum</i> , (S.-D.).
4, <i>O. crithoideum-externum</i> .
5, " " <i>internum</i> .
6, <i>Lig. transversum poplitæum</i> , (S.-D.).
7, 8, two ligamentous fascia, entering | into the composition of the femoro-tibial capsule.
9, <i>O. poplitæum</i> , (S.-D.).
10, <i>Lig. tibio-fibulare supra-posterius</i> , (S.-D.).
11, head of the Fibula .
12, <i>M. poplitæus</i> .
13, a portion of the <i>Lig. interosseum tibio-fibulare</i> . |
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FIG. 6. *The same articulation showing the deep ligaments.*

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| 1, Distal end of the Femur .
2, <i>O. crithoideum externum</i> .
3, " " <i>internum</i> .
4, <i>Lig. femoro-crithoideum-externum</i> , (S.-D.).
5, <i>Lig. femoro-crithoideum-externum</i> , (S.-D.).
6, <i>condylus externus femoris</i> .
7, <i>condylus internus femoris</i> .
8, <i>Lig. femoro-selenicum</i> , (Str.-Dur.)
9, " <i>transversum externum</i> , (S.-D.).
10, Enlarged fascia of the <i>capsula femoro-tibialis</i> ,
11, <i>Lig. tibio-selenicum postero-internum superficiale</i> , (S.-D.). | 12, <i>C. selenica-interna</i> , (S.-D.).
13, " " <i>-externa</i> , (S.-D.).
14, <i>Lig. tibio-selenicum postero-externum</i> , (S.-D.).
15, <i>Lig. transversum internum</i> , (S.-D.).
16, <i>ady. Lig. tibialis externus</i> , (S.-D.).
17, <i>Lig. tibialis internus</i> , (S.-D.).
19, <i>Lig. femoro-fibulare latero-externum</i> , (S.-D.).
20, <i>Lig. femoro-tibiale latero-internum</i> , (S.-D.).
21, <i>Lig. tibio-fibulare supra-posternus</i> , (S.-D.).
22, Proximal end of the Tibia .
22, " head of the Fibula . |
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FIG. 7. *The proximal head of Tibia viewed from above, with the Cc. selenica and their ligaments.*

- ab*, the internal and external tibial condyles; *c*, its angle; *d*, **C. selenica externa**; *e*, **C. selenica interna**; *f*, *crista tibiæ*.
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| <p>1, Lig. transversum internum, (S.-D.).</p> <p>2, " tibio-selenicium postero-internum profundum, (S.-D.).</p> <p>3, Lig. tibio-selenicium postero-internum, (S.-D.).</p> | <p>4, Lig. tibio-selenicium antero-externum, (S.-D.).</p> <p>5, Lig. tibio-selenicium antero-internum, (S.-D.).</p> <p>6, 7, portions of the lateral branches of the Lig. adiposum, (S.-D.).</p> <p>8, Lig. transversum externum, (S.-D.).</p> |
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FIG. 8. *The distal part of the leg and the foot seen from in front; the metatarsal bones widely separated, and the toes forcibly extended, the better to exhibit the superficial layer of muscles.*

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| <p>1, The distal part of the Tibia.</p> <p>2, " " " " Fibula; <i>a</i>, mal-leolus externus.</p> <p>3, Lig. annulare cruris (or <i>tibiæ</i>).</p> <p>4, distal extremity of Tibia.</p> <p>5, " " " Fibular.</p> <p>6, Lig. capsulare tibio-tarsale.</p> <p>7, tendon of M. tibialis anticus.</p> <p>8, 8', 8'', M. cnemodactyleus (Riolan); <i>abcd</i>, the four branches of its tendon.</p> <p>9, fascia of the Lig. capsulare tib.-tars., prolonged to the O. epitrium, (S.-D.).</p> <p>10, Lig. tibiale-fibulare infra-anterius, (S. D.).</p> <p>11, O. epitrium, (S. D.).</p> <p>12, Tendon of the M. peronæus tertius.</p> <p>13, Lig. annulare anterius calcis.</p> <p>14, " " externum calcis, (S.-D.).</p> <p>15, Lig. astragalo-calcaneum internum, (S.-D.).</p> <p>16, Lig. astragalo-naviculare internum, (S.-D.).</p> <p>17, Lig. naviculare-epitrium dorsale, (S.-D.).</p> | <p>18, M. extensor brevis dig. pedis;</p> <p>18', 18'', 18''', its three branches.</p> <p>19, M. adductor medius hallucis.</p> <p>20, O. II metatarsale.</p> <p>21, " III " .</p> <p>22, " IV " .</p> <p>23, " V " .</p> <p>24, Mm. adductores hallucis.</p> <p>25, 26, Enlargements of the tendons of the M. cnemodactyleus over the metatarso-phalangeal articulations; <i>a</i>, branch of same muscle terminating on the capsule.</p> <p>27, Frena of the tendons of the same.</p> <p>28, Tendons of the Mm. adductores longi digitorum pedis.</p> <p>29, Those of the M. adductores longi.</p> <p>30, Oo. primi phalangis.</p> <p>31, " secundi "</p> <p>32, The Ungues-(claws).</p> <p>33, A portion of the integument uniting the toes out to their extremities, in the same manner as occurs in the fingers.</p> <p>34, Hood-like lobes which this dermal expansion forms over the claws.</p> |
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40, Enlargements formed over the first inter-phalangeal articulations by the union of the tendons of **Mm. cnemo-**

dactyleus, -extensor brevis dig. ped., -adductores longi and -abductores longi dig. ped.

FIG. 9. *The same parts presenting the ligaments and muscles of the second layer.*

- 1, Portions of the **Tibia and Fibula**.
- 2, **Lig. annulare cruris**; *a*, its frenum.
- 3, " **tibis-fibulare infra-anterius**.
- 4, Distal head of **Tibia** forming the **malleolus internus**.
- 5, Distal head of **Fibula** forming the **malleolus externus**.
- 6, **Lig. tibio-astragaleum ant.**, (S.-D.).
- 7, **Lig. fibulo-calcaneum post.**, (S.-D.).
- 8, **Lig. tibio-calcaneum ant.**, (S.-D.).
- 9, The tibio-tarsal capsule.
- 10, **Lig. tibio-tarsale anterius**, (S.-D.).
- 11, **O. cuneiforme (tarsi)**.
- 12, **O. epitrium**, (S.-D.).
- 13, **Lig. annulare anterius calcis**.
- 14, " **astragalo-calcaneum internum**, (S.-D.).
- 15, **Lig. calcaneo-naviculare internum**, (S.-D.).
- 16, **Lig. naviculo-epitrium dors.**, (S.-D.).
- 17, **Lig. annulare externum calcis**, (S.-D.).
- 18, **Lig. naviculo, II metatarsale dorsale**, (S.-D.).
- 19, **M. adductor medius secundi digiti pedis**, (S.-D.).
- 20, **Lig. cuneiforme, II metatarsale dorsale**, (S.-D.).
- 21, **M. abductor brevis quinti dig. ped.**, (S.-D.).
- 22, 22', 22'', **M. extensor brevis dig. ped.**; *a*, its tendon running to the second digit, and sending a branch *b*, to the cartilaginous granule 23, contained in the II metacarpo-phalangeal articular capsule; *c*, branch running to the third toe, and giving a small branch *d*, to a cartilaginous granule 24, contained in the capsule of that toe; *f*, branch running to the internal side of the same toe, and sending a little branch *d*, to the same cartilaginous granule; 22'', running to the fourth toe, gives also a little branch *e*, to the granule 26.
- 26, Cartilaginous granule of the fifth metatarso-phalangeal capsule.
- 27, **O. II metatarsale**.
- 28, " **III** " .
- 29, " **IV** " .
- 30, " **V** " .
- 31, **M. abductor longus secundi dig. ped.** (S.-D.).
- 32, **M. adductor longus tertii dig. ped.** (S.-D.).
- 33, **M. adductor longus tertii dig. ped.** (S.-D.).
- 34, **M. abductor longus quarti dig. ped.** (S.-D.).
- 35, **M. abductor longis quarti dig. ped.** (S.-D.).
- 36, **M. adductor medius minime dig. ped.** (S.-D.).

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| 37, Fibrous cap covering the first inter-phalangeal articulations.
38, <i>Lig. elastico-extensus internum tertii phalangis</i> , (S. D.). | 39, <i>Lig. elast.-ext. exter. tert. phal.</i> (S.-D.).
40. <i>O. tertii phalangis</i> .
41, Portions of the tendons of the <i>M. cnemodactyleus</i> . |
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FIG. 10. *The distal end of the leg and the foot, plantar side; the toes forced apart, to show the superficial layer of muscles.*

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| 1, The extremity of the heel, (talus).
2, Enlargement of the tendon of the <i>M. flexor brevis digitorum pedis perforatus</i> covering the tip of the heel where it becomes continuous with the tendon of <i>M. fusiformis</i> , (S. D.).
3, <i>Lig. arcuatum astragaleum plantare</i> , (S.-D.); and <i>-arcuatum posterius interni malleoli</i> , (S.-D.).
4, <i>Lig. arcuatum posterius externi malleoli</i> , (S.-D.).
5, <i>Lig. fibulo-calcaneum latero-externum</i> , (S.-D.).
6, Tendons of <i>M. peronæus tertius</i> .
7, <i>M. calcaneo-V metatarsale</i> , (S.-D.).
8, Tendon of <i>M. flexor longus pollicis</i> .
9, Tendon of <i>M. tibialis posticus</i> .
10, <i>Lig. annulare externum calcis</i> .
11, <i>M. abductor medius min. dig. ped.</i> , (S.-D.).
12, Tendon of the <i>M. peronæus secundus</i> .
13, Tip of the <i>O. V metatarsale</i> .
14, Tendon of <i>M. tibialis anticus</i> .
15, <i>O. I metatarsale</i> .
16, <i>M. adductor medius secundi dig. ped.</i> , (S.-D.).
17, <i>M. adductor longus secundi dig. ped.</i> , (S.-D.).
18, <i>M. abductor brevis minimi dig. ped.</i> , (S.-D.).
19, <i>M. adductor longus minimi dig. ped.</i> (S.-D.). | 20, Frenum of <i>M. flexor brevis digitorum pedis perforatus</i> .
21, Tendon of <i>M. perodactyleus secundi digiti pedis</i> .
22, <i>M. flexor brevis digitorum perforatus</i> ; <i>a, b, c, d</i> , its four heads; <i>e, f</i> , subdivision of the branches <i>b</i> and <i>c</i> , continuous with the <i>Lig. infraphalangiale profundum commune digitorum pedis</i> , (S.-D.).
23, <i>Mm. lumbricales</i> of the third and fourth toes.
24, <i>M. lumbricalis</i> of the fifth toe.
25, " " of third digit.
26, <i>Lig. plantare commune digitorum ped.</i> , (S.-D.); <i>a, b, c</i> , its branches running to the external three toes and into the sole.
27, Tendon of the <i>M. perodactyleus</i> (minimi dig. ped.).
28, <i>Mm. abductores longus and medius secundi dig. ped.</i> , (S.-D.).
29, <i>M. abductor longus tertii digiti pedis</i> , (S.-D.).
30, <i>M. adductor medius quarti dig. ped.</i> , (S.-D.).
31, <i>M. adductor medius minimi dig. ped.</i> , (S.-D.).
32, <i>Lig. annulare sesamoideorum</i> .
33, <i>O. primi phalangis</i> .
34, <i>Lig. infraphalangiale superficiale commune digitorum pedis</i> , (S.-D.). |
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- 35, the sole; *a, b, c*, its three prominences or pads.
 36, **Ligs. infraphalangiales.**
 37, **O. secundi phalangis.**

- 38, Tendons of **M. perodactyleus** (Riolan).
 39, The lesser pads.
 40, The claws, or **Unguines.**

FIG. 11. *The same parts and same view, but exhibiting the second layer of muscles and ligaments.*

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| <p>1, Extremity of Astragalus covered by articular cartilage, in order to facilitate the gliding over it of the tendon of M. fusiformis plantaris, (S.-D.).
 2, <i>a</i>, Lig. arcuatum astragaleum plantare (S.-D.); <i>b</i>, Lig. arcuatum posterius interni Malleoli, (S.-D.); <i>c</i>, Lig. arc. calcaneum plantare, (S.-D.).
 4, The distal head of the Fibula.
 5, 5', Lig. calcaneo-V metatarsale plantare, (S.-D.), or M. calcaneo-V metatarsale, (S.-D.).
 6, Tendon of M. flexor longus hallucis which joins with that of the M. perodactyleus (Riolan). 15.
 7, Tendon of M. peronæus tertius.
 8, Lig. annulare externum calcis, (S.-D.).
 9, Tip of the O. V metatarsale.
 10, Fibrous lamella of the apon. pedalis plantaris attached to the Oo. calcis and metatarsum.
 11, M. accessorius perodactyli.
 12, " abductor medius min. dig. ped., (S.-D.).
 13, M. abductor brevis min. dig. ped., (S.-D.).
 14, M. adductor longus min. dig. ped., (S.-D.).
 15, 15', Tendon of M. perodactyleus (Riolan); <i>d</i>, branch running to the second toe; <i>e</i>, branch running to the fifth toe.
 16, M. lumbricalis tertii dig. pedis.</p> | <p>17, M. lumbricalis quarti dig. pedis.
 19, " " minimi " " .
 18, O. primum (I) metatarsale.
 20, M. adductor medius secundi dig. ped., (S.-D.).
 21, M. adductor longus secundi dig. ped., (S.-D.).
 22, M. adductor brevis secundi dig. ped., (S.-D.).
 23, M. plantaris communis digitorum pedis; <i>a, b, c</i>, branches running into the sole and to the fifth or little toe.
 24, M. lumbricalis tert. dig. ped.
 25, 26, 27, 28, the Ligs. annulares sesamoideorum of the outer four toes.
 29, Portions of the tendon of M. flexor brevis digitorum pedis perforatus; <i>a</i>, sub-branches continuous with the Lig. infraphalangiale profundum commune digitorum pedis, (S.-D.).
 30, Branch of the M. perodactyleus (Riolan), running to the fourth toe.
 31, Mm. abductores sec. dig. ped., (S.-D.).
 32, M. adductor tert. " " "
 33, " abductor quart. " " "
 34, Mm. adductores min. " " "
 35, O. primi phalangis.
 36, 37, 38, Lig. infraphal. profund. com. dig. ped., (S.-D.).
 39, Lig. elasticum, a branch of the Lig. plantare commune digitorum ped., running into the anterior part of the sole.
 40, Lig. elast., branch of the Lig. infra-</p> |
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| <p>phalangiale profund. com. dig. ped.,
running into the antero-internal part
of the sole of the foot.</p> <p>41, Lig. annulare infraphalangiale.</p> | <p>42, Oo. secundi phalangis; a tendon of
the <i>M. perodactyleus</i> (Riolan).</p> <p>43, Oo. tertii phalangis.</p> <p>44, Outline of the sole.</p> |
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FIG. 12. *The instep, anterior view, showing the bones and ligaments.*

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| <p>1, 1', O. calcis; a, tuber externum.</p> <p>2, 2', The astragalum; 2, its "pulley";
2', p. naviculare.</p> <p>3, Lig. astragalo-calcaneum dorsale,
(S.-D.).</p> <p>4, Lig. annulare externum calcis, (S.-
D.).</p> <p>5, O. naviculare; a, t. internum.</p> <p>6, Lig. calcaneo-naviculare dorsale, (S.-
D.).</p> <p>7, Lig. calcaneo-cuboideum dor. (S.-D.).</p> <p>8, Lig. calcaneo-cuboideum externum,
(S.-D.).</p> <p>9, Lig. naviculo-cuboideum dorsale, (S.-
D.).</p> <p>10, Lig. epitrio-cuboideum dorsale, (S.-
D.).</p> <p>11, Lig. naviculo-epitrium dorsale, (S.-
D.).</p> <p>12, Lig. epitrio-IV metatarsale dorsale,
(S.-D.).</p> <p>13, Lig. chalcoido-"cuneiforme" dor-
sale, (S. D.).</p> <p>14, O. "cuneiforme".</p> <p>Between 14 and 16, Lig. "cuneiforme"-
II metatarsale dorsale. (S.-D.).</p> | <p>15, Lig. chalcoido-II metatarsale dor-
sale, (S.-D.).</p> <p>16, Lig. epitrio-II meta. dors. (S.-D.).</p> <p>17, O. cuboideum</p> <p>18, " epitrium, (S.-D.).</p> <p>19, Lig. epitrio-II metatarsale dorsale,
longum (S.-D.).</p> <p>20, Lig. epitrio-II metatarsale dorsale
breve, (S.-D.).</p> <p>21, Lig. II & IV metatarsale dorsale.</p> <p>22, " cuboido-V metatarsale exter-
num, (S.-D.).</p> <p>23, Lig. cuboido-IV metatarsale dor-
sale, (S.-D.).</p> <p>24, Lig. cuboido-V metatarsale dorsale,
(S.-D.).</p> <p>25, Lig. naviculo-chalcoideum plantare,
internum, (S.-D.).</p> <p>26, 27, 28, 29, the external four metatar-
sal bones.</p> <p>30, Lig. interosseum II-III metatarsale,
(S.-D.).</p> <p>31, Lig. interosseum III-IV metatarsale,
(S.-D.).</p> <p>32, Lig. interosseum IV-V metatarsale,
(S.-D.).</p> |
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FIG. 13. *The plantar surface of the foot, the toes considerably extended and separated.*

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| <p>1, O. calcis; 1', its p. cuboideus.</p> <p>2, The Astragalus.</p> <p>3, Lig. annulare externum calcis, (S.-D.).</p> <p>4, O. cuboideum</p> | <p>Between 4 and 5, Lig. cuboido-V meta-
tarsale externum, (S.-D.).</p> <p>5, Proximal extremity of O. V metatar-
sale.</p> |
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| <p>6, Lig. calcaneo-cuboideum plantare, (S.-D.).</p> <p>7, Lig. calcaneo-V granulum, (S.-D.).</p> <p>8, " -epitrium plantare, (S.-D.).</p> <p>9, Lig. calcaneo -I metatarsale plantare, (S.-D.).</p> <p>10, Lig. calcaneo -chalcoideum plantare, (S.-D.).</p> <p>11, A portion of the tendon of M. tibialis posticus.</p> <p>12, Hooks of O. epitrium, (S.-D.).</p> <p>13, O. V granulum, (S.-D.).</p> <p>14, O. primum (I) metatarsale.</p> <p>15, " secundum (II) "</p> <p>16, Lig. cuboideo-V granulum, (S.-D.).</p> <p>17, Origin of the Lig. plantare com. dig. pedis, (S.-D.).</p> <p>18, M. opponens min. dig. ped. (S.-D.)</p> <p>19, " abductor brevis min. dig. ped. (S.-D.)</p> <p>20, M. adductor longus min. dig. ped. (S.-D.).</p> <p>21, The common plantar portion of the tendon of M. perodactyleus (Riolan), dividing into four branches, <i>a</i>, <i>b</i>, <i>c</i>, <i>d</i>, which run to the external four toes.</p> <p>22, M. adductor longus secundi digiti pedis, (S.-D.).</p> | <p>23, M. adductor medius secundi digiti pedis, (S.-D.).</p> <p>24, M. adductor brevis secundi digiti pedis, (S.-D.).</p> <p>25, M. lumbricalis tert. dig. ped. (S.-D.).</p> <p>26, " lumbricalis quart. dig. ped. (S.-D.).</p> <p>27, " lumbricalis min. dig. ped. (S.-D.).</p> <p>28, " abductor longus tertii digiti pedis, (S.-D.).</p> <p>29, M. adductor medius secundi digiti pedis, (S.-D.).</p> <p>30, M. add. long. tert. dig. ped. (S.-D.).</p> <p>31, " abd. longus tert. dig. ped. (S.-D.).</p> <p>32, " add. long. quart. dig. ped. (S.-D.).</p> <p>33, " abd. med. quart. dig. ped. (S.-D.).</p> <p>34, " add. med. min. dig. ped. (S.-D.).</p> <p>35, Ligs. annulares sesamoideorum cut to show the enlargement 36, of the tendon of M. flexor brevis digitorum pedis perforatus of which only a trace is seen.</p> <p>37, Oo. primi phalangis.</p> <p>38, Tendons of the M. perodactyleus (Riolan).</p> <p>39, Lig. annulare infraphalangiale digitorum pedis, (S.-D.).</p> <p>40, Oo. secundi phalangis.</p> <p>41, " tertii</p> |
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FIG. 14. *The foot in the same position as above, showing the next deeper layer of muscles and ligaments.*

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| <p>1, 1', O. calcis.</p> <p>2, Astragalus; <i>a</i>, Lig. astragalo-calcaneum plantare, (S.-D.).</p> <p>3, tendon of the M. tibialis posticus, raised from its natural position.</p> <p>4, Lig. calcaneo-naviculare internum, (S.-D.).</p> <p>5, Lig. calcaneo-cuboideum plantare, (S.-D.).</p> | <p>6, groove for the M. perodactyleus on the O. calcis.</p> <p>7, Lig. calcaneo-naviculare plantare (S.-D.).</p> <p>9, O. naviculare; 9', t. internum.</p> <p>10, " cuboideum; <i>a</i>, its canal.</p> <p>11, proximal superior extremity of the O. chalcoideum.</p> |
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|---|--|
| <p>12, Lig. naviculo-I metatarsale internum, (S.-D.).</p> <p>13, Lig. chalcoido-I metatarsale plantare, (S.-D.).</p> <p>14, Lig. naviculo-epitrium plantare, (S.-D.).</p> <p>15, Lig. naviculo-I metatarsale plantare, (S.-D.).</p> <p>16, Lig. naviculo cuboideum plantare, (S.-D.).</p> <p>17, " cuboide-V granulum, (S.-D.).</p> <p>18, " " -IV granulum "</p> <p>19, summit of the hook of the O. epitrium.</p> <p>20, Osc. IV granulum, (S.-D.).</p> <p>21, O. V granulum, (S.-D.).</p> <p>22, rudiment of the O. primum I metatarsale.</p> <p>23, O. quintum (V) metatarsale.</p> <p>24, M. opponens min. dig. ped., (S.-D.).</p> | <p>25, portions of the M. abductor brevis-quinti digiti pedis, (S.-D.).</p> <p>26, M. abd. med. sec. dig. ped. (S.-D.).</p> <p>27, " abd. long. sec. dig. ped. (S.-D.).</p> <p>28, " add. long. sec. dig. ped. (S.-D.).</p> <p>29, " abd. med. sec. dig. ped. (S.-D.).</p> <p>30, " add. brevis sec. dig. ped. (S.-D.).</p> <p>31, " add. med. quinti dig. ped. (S.-D.).</p> <p>32, " add. long. ter. dig. ped. (S.-D.).</p> <p>33, " abd. long. tert. dig. ped. (S.-D.).</p> <p>34, " add. long. quart. dig. ped. (S.-D.).</p> <p>35, " abd. med. quart. dig. ped. (S.-D.).</p> <p>36, Oo. sesamoides of the several digits.</p> <p>37, Ligs. intersesamoides, (S.-D.).</p> <p>38, " transversi sesamoideorum, (S.-D.).</p> <p>39, O. primi phalangis.</p> <p>40, " secundi " .</p> <p>41, " tertii " ; a, t. inferius.</p> |
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FIG. 15. *The foot, plantar surface, exhibiting the deepest layer of muscles and ligaments.*

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| <p>1, O. calcis; a, p. cuboideus; b, t. internum.</p> <p>2, Astragalus.</p> <p>3, p. naviculare of the latter.</p> <p>4, Lig. calcaneo-naviculare internum, (S.-D.).</p> <p>5, Lig. naviculo-chalcoideum plantare internum, (S.-D.).</p> <p>6, t. internum of the O. naviculare.</p> <p>7, t. externo-plantare of same bone.</p> <p>8, Superior or proximal head of O. chalcoideum.</p> <p>9, O. cuboideum.</p> <p>10, Proximal extremity of O. quintum (V) metatarsale.</p> <p>11, Lig. naviculo-cuboideum plantare, (S.-D.).</p> <p>12, Groove of the O. cuboideum prolonged to the O. I metatarsale, 26.</p> | <p>13, Lig. quantum intergranulum, (S.-D.).</p> <p>14, " chalcoido-epitrium plantare, (S.-D.).</p> <p>15, M. naviculo-chalcoideus, (S.-D.).</p> <p>16, Lig. tertium intergranulum, (S.-D.).</p> <p>17, " epitrio-cuboideum plantare, (S.-D.).</p> <p>18, t. hamulare epitrii, (S.-D.).</p> <p>Between 18 and 23, Lig. chalcoido-epitrium plantare, (S.-D.).</p> <p>Between 18 and 20, Lig. epitrio-IV granulum, (S.-D.).</p> <p>19, Osc. V-granulum, (S.-D.).</p> <p>20, " IV " " "</p> <p>21, " III " " "</p> <p>22, Lig. V granulo-V metat. (S.-D.).</p> <p>23, Lig. chalcoido-I metatarsale plantare, (S.-D.).</p> <p>24, Lig. epitrio-III granulum, (S.-D.).</p> |
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- 25, **Lig. I-II** metat. plantare, (S.-D.).
 26, Rudiment of **O. I** metatarsale.
 27, **O. II** metatarsale.
 28, " **V** metatarsale.
 29, **M. abd. long. quarti** dig. ped. (S.-D.).
 30, **M. add. long. quarti** dig. ped. (S.-D.).

- 31, **M. abd. long. tertii** dig. ped. (S.-D.).
 32, " **add. brevis ter.** dig. ped. (S.-D.).
 34, " **add. long. tertii** dig. ped. (S.-D.).
 35, " **abd. med. quar.** dig. ped. (S.-D.).
 36, **Ligs. intersesamoides**, (S.-D.).
 37, **Oo. sesamoides**.

FIG. 16. *The bones of the insteps, plantar surface, showing the deepest ligaments.*

A, The "tarsus".

- 1, **O. calcis**; *a*, **p. cuboideus**; *b*, **t. externum**;
 1', its **t. internum** crossed by the canal for the **M. perodactyleus** (Riolan).
 2, **Astragalus**.
 3, **p. naviculare** of the latter.
 4, **O. cuneiforme secundum**.
 5, " **naviculare**; *a*, its **t. internum**;
 i, **t. posterius (navicularis)**.
 6, **O. chalcoidium**, (S.-D.).
 Between 6 and 7, **Lig. interosseum-chalcoido-epitrium**, (S.-D.).
 7, **O. epitrium**; 7', **t. hamulare epitrii**, (S.-D.).
 8, **Lig. cuboido-IV granulum**, (S.-D.).
 9, **O. cuboideum**.
 10, **Osc. III granulum**, (S.-D.).
 Between 10 and 11, **Lig. tertium intergranulum**, (S.-D.).
 11, **Osc. IV granulum**, (S.-D.).
 Between 11 and 12, **Lig. quartum intergranulum**, (S.-D.).
 Below 11, **Lig. IV granulo-IV metatarsale**, (S.-D.).

- 12, **Osc. V granulum**, (S.-D.).
 13, **Lig. IV granulo-IV metatarsale**, (S.-D.).
 14, **Lig. interosseum calcaneo-naviculare**, (S.-D.).
 15, **Lig. epitrio-I metatarsale plantare**, (S.-D.).
 16, 17, **Lig. V granulo-V metat.** (S.-D.).
 18, **Lig. I-III metat. plantare**, (S.-D.).
 19, " **III granulo-III metat.** (S.-D.).
 20, " **III-IV metat. plantare**, (S.-D.).

B. The metatarsus.

- 21, rudiment of **O. I metatarsale**.
 22, **O. II metatarsale**.
 23, " **III** " "
 24, " **IV** " "
 25, " **V** " "
 On the last four bones, *abc*, is the distal head; *a*, **t. internum**; *b*, **t. externum**; *c*, the "keel" (*la carine*), of the middle.
 26, 27, 28, **Ligs. interossei** between the **Oo. metarsales**.

FIG. 17. *The same parts as in the last figure except the O. calcis, which has been removed.*

A. The Tarsus.

- 1, **Astragalus**; *a*, a portion of its "pulley"; *b*, *c*, its two facets of articulation with the **O. calcis**; *d*, rough

groove which separates them; *e*, **p. naviculare**.

- 2, Space occupied by the **p. cuboideus** (calcis).

- O. paroccipitalis**, *b*, its suture with "supraöccipitale (Owen), *c*, occipital condyle.
- 11, **O. supraöccipitale** (Owen).
- 12, **C. alaris** (nasi).
- 13, **O. premaxillare**; *m*, its vertical plate.
- 14, 18, Maxillary bone, ("siagonal" or "siagon", (Str.-Dur.); **O. maxillare** (superius).
- 14, *a, d*, its **p. nasalis** (max. sup.); *b*, tuberosity of the internal angle of the orbit to which is attached the **M. orbicularis palpebrarum**; *d*, canine eminence; *g*, canine fossa; *h*, **f. infraorbitale**; *hn*, **p. malaris**; *m*, extremity of **O. malare**.
- 15, Lachrymal bone, (*unguis* (S.-D.)).
O. lacrymale; *c*, can. lacrymalis.
- 16, Superior incisor teeth.
- 17, Canine " "
- 18, Alveolar border of **O. maxillare**; *a*, first premolar; *b*, second premolar; *c*, third premolar; *d*, first molar; *n*, posterior extremity of dentiferous portion of the bone.
- 19, Malar bone, **O. malare**; *a*, **p. frontalis**; *ib*, **p. zygomaticus malaris**, (S.-D.). *ihm*, suture with **O. maxillare**; *am*, orbital border.
- 20, The squamous portion of the **O. squamosum**; *eo*, its posterior prolongation.
- 20', **p. zygomaticus** (squamosi); *ed*, its anterior branch, forming the posterior part of the zygomatic arch; *ce*, longitudinal root of the **p. zygomaticus**; *i*, **p. postglenoidalis** (squamosi), situated behind the glenoid fossa, which receives the condyle of the jaw 21. *g*.
- 21, The jaw (*mâchoire*) or mandible, (**O. maxillare inferius**); *a*, its anterior extremity; *d*, coronoid fossa; *e*, the first premolar tooth; *f*, the second premolar tooth; *g*, the condyle; *h*, **p. angularis** (mandibulæ) or the "angle"; *i*, **f. mentale**.
- 21', Extremity of the **p. coronoides**.
- 22, Inferior canine tooth.
- 23, "Body" of the hyoid, or "**basihyal**"; *e*, left extremity of Hyoid apparatus; *g*, its body, or **Basihyal**.
- 24, *Corne cephalique* (S.-D.) of the hyoid apparatus; *a*, the **Ceratohyal**; *b*, the **Epihyal** (Owen); *c*, the **Stylohyal** (Owen); *d*, the **C. stylohyoidea**.
- 25, **Thyrohyal**.
- 26-29, **Larynx**.
- 26, Thyroid cartilage, **C. thyroidea** *aced*, its left wing; *f. g.* its *corne superieur* (S.-D.); *g*, its *corne inferieur* (S.-D.).
- 27, Cricoid cartilage; **C. cricoidea**; *a*, its lateral tuberosity; *b*, its "*chaton*,"
- 28, The **Epiglottis**.
- 29, Arytenoid cartilage; **C. arytenoidea**.
- A. B. C. D. E. The **spine**, or vertebral column. A, cervical region; B, the middle part of the dorsale region, (posterior of Str.-Dur.). [The first three vertebræ of C, belong to dorsal series of other authors]; C, its "lumbar region" (Str.-Dur.), see above; D, sacral region; E, caudal region.
- 31, The **Atlas**, or first cervical vertebra; *a*, "body" of the vertebra, or **centrum**; *bc*, its pedicle and lamina, or **neural arch**; *d*, its **p. antobliquus** (S.-D.), (*anterior zygapophysis* (Owen), *prezygapophysis* (Huxley), superior or anterior articular process of

- Human anatomists and most of the older anatomists), in which is a depression for the reception of, and articulation with the occipital condyle, *e*, **p. postobliquus**, (S.-D.); *posterior zygapophysis* (Owen), *post-zygapophysis* (Huxley), post-oblique process (Str.-Dur.). inf. or post. articular process); *fg.*, the united par- and diapophyses (Owen), transverse and plagian processes united of Str.-Dur., the transverse process, **p. transversus**; *h*, *f. intervertebrale*; *i*, *f. atlantis*, (S.-D.).
- 32, The **Axis**, or 2d cervical vertebra; *a*, its "body", **centrum**; *bc.*, spinous process, **p. spinosus**, (neural spine, neurapophysis (Owen); *d*, **p. postobliquus**, (S.-D.); *f*, transverse process, **p. transversus** (transverse and plagian united (Str.-Dur.); *g*, foramen for the vertebral artery, *f. vertebrarium*; *h*, *f. intervertebrale*; *i*, **p. antobliquus**, (S.-D.).
- 33, 34, 35, 36, 37, the five following cervical vertebræ; *a*, **centra**, of each; *b*, neural spines, **pp. spinosi**; *c*, **pp. antobliqui** (S.-D.); *d*, **pp. postobliqui**, (S.-D.); *e*, **pp. costellares**, (S.-D.); *f*, **p. transversus** (transv. and plag. united (S.-D.); *h*, *f. intervertebrale*.
- 36, *e*, *e'*, The two branches of the **p. costellaris**, (S.-D.), present thus only in this vertebra. (The first dorsal vertebræ corresponding to the Nos. 37-39 are hidden by the shoulder blade (Scapula) 101.
- 40-47, & 48-50, The remaining ten of the 13 dorsal vertebræ.
(Str.-Dur. calls 37-47 dorsal vertebræ and 48-50 "Les trois vertebres lombaires costiniferes").
- a*, body, **centrum**, "corps"; *b*, **p. transversus**; *c*, **p. plagius**, (S.-D.); *d*, anterior articular facet; *e*, posterior articular facet borne upon a rudiment of the **p. postobliquus**, (S.-D.); *f*, **p. spinosus**; *i*, *f. intervertebrale*.
- 51-57, The Lumbar vertebræ; *a*, **centra**; *b*, **pp. transversi**; *c*, **pp. plagii**, (S.-D.); *d*, **pp. antobliquus**, (S.-D.); *e*, **pp. postobliquus**, (S.-D.); *f*, **pp. spinosi**; *g*, **ff. intervertebralia**.
- 58-59-60, The three sacral vertebræ *a*, *b*, *c*, and *f*, as above.
- 61-81, The twenty-two caudal vertebræ *a*, *b*, *c*, *d*, *e*, and *f*, and *i*, as above; *h*, *costettes* (Str.-Dur.).
- 82, Bone of the **Penis**, (**O. penis**).
- 83-95, The thirteen ribs and riblets, **costae**; *l*, the extremity of the cartilage articulated with the **Sternum**; *m*, their angles; *n*, their articulation with the cartilages; *o*, the cartilaginous "sternal ribs"; *p*, the tuberosities (**tuberculi costorum**); *r*, the heads (**capituli costorum**).
- 96-97, The **Sternum**.
- 96, The **presternum**, or first sternal piece; *ab*, its prolongation in front of the first ribs; *l*, the articulation of the first two sternal pieces, with the first pair of ribs; *c*, *d*, *e*, *f*, *g*, *h*, the last six sternal pieces, or **mesosternum**.
- 97, *ik*, the ensiform appendix, **xiphisternum**; *k*, its terminal disk.
- 98, The **O. ilium**; *a*, antero-superior spine; *b*, epiphysis, and supra-posterior spine; *c*, antero-inferior spine; *d*, infra-posterior spine.

- 98, *de*, Ilio-sacral groove; *f*, **eminentia pectinalis**; *eg*, ischiadic-spine; *no*, cotyloid cavity; *p*, rugositi for the insertion of the **M. promeralis**, (S.-D.).
- 99, **O. ischium**; *hi*, epiphysis and tuberosity of same; *gh*, ischiadic groove; *m*, **f. obturatorium**; *lp*, ischic symphysis.
- 100, **O. pubis**; *b'*, "lesser trochanter" of right Femur; *j*, spine of **O. pubis**; *jkl*, pubic symphysis.
- 101-109, Left anterior member.
- 101'-109', Right " " .
- 101-102, Bones of the shoulder.
- 103, Bone of the arm. **Brachium**.
- 104-5, Bones of the forearm. **Ante-brachium**.
- 106, Bones of the **Palmure**, (S.-D.).
- 107, " " **Carpus**, or wrist.
- 108, " " **Metacarpus**, or palm.
- 109, " " **Digits**, or fingers.
- 101, The **Scapula**; *acb*, "supra scapular" border; *cd*, "spine" of the scapula; *d*, **p. recurrens** (scapulæ); *e*, **p. acromialis**; *e*, its tuberosity; *fg*, border of the scapulo-humeral *glenoid* cavity; *h'*, **p. corocoideus**; *acdef*, supra-spinous fossa; *bcdg*, infra spinous fossa.
- 102, Clavicle, **Clavicula**; *a*, its internal, or sternal extremity; *b*, its external, or acromial extremity.
- 103, **Humerus**, or **Os. humeri**; *ab*, its head; *cd*, great or radial tuberosity; *e*, "small", or ulnar" tuberosity; *i'*, "bicipital groove", or *fos. intertubercularis*; *f*, *épicondyle* (Chaus.), "external condyle"; *gh*, "condyle", articulating with **Radius**; *fc*, commencement of supinator ridge; *k'l'*, *épitrochlée* (Chaus.), **internale condyle**; *m'*, *trochlæa* articulating with **Ulna**; *n'*, bony arch over **for. supra-condylare**; *o'*, foramen for nutritive artery, *cp*, external deltoid ridge; *dp*, anterior deltoid ridge; *r*, superior internal crest, (S.-D.).
- 104, **Ulna**; *ab*, **p. anconeus**, or "Olecranon"; *cdj*, border of the greater "sigmoid fossa"; *df*, "coronoid process", (**p. coronoides**); *l*, **p. styloideus ulnæ**, forming the inferior extremity of the **Ulna**.
- 105, **Radius**; *a*, its superior, (or proximal) head; *mn*, inferior, or distal head; *w'*, **p. styloideus radii**; *o*, "bicipital eminence".
- 106-109, **Hand**.
- 106, **Palmure**, (S.-D.).
- 107, **Carpus**, composed of separate osselets; *a*, **O. scaphoides** (manus); *b*, **O. lunare**; *c*, **O. cuneiforme** (carpi); *d*, **O. pisiforme**; *e'*, **O. phacoides**, (S.-D.); *f*, **O. trapezium**; *gg'*, **O. trapezoides**; *hh'*, **O. magnum**; *i*, **O. unciforme**.
- 108, **Metacarpus**, composed of five metacarpal bones I, II, III, IV, V; *k*, I, (or *stathos* of Str.-Dur.); *l*, II, *m*, III, *n*, IV, *o*, V.
- 109, **Digits**, (digitus manus), formed each of five osselets; *a*, **Oo. sesamoidea**. *bcd*, **O. primi phalangis**; *e'f'g'*, **O. II phalangis**, "ungual phalanx" of thumb; *e'f'g'*, **O. II phalangis**; *h'k*, and *h'l'k'*, **O. III. phalangis**.
- 110-117, Bones of the posterior members.
- 110, **Thigh** or "Femur".
- 111-113, **Leg**.
- 114-117, **Foot, Pedis**.
- 114, *cou-de-pied* (S.-D.).

- 115, **Tarsus**.
 116, **Metatarsus**.
 117, **Toes, or digiti pedis**.
 110, The bone of the thigh, or **Femur**; *a*, the **trochanter major**; *b*, the **trochanter minor**; *cdjkq*, and *m'n'o'*, inferior epiphysis, forming, by its arches *cdjk* and *m'n'o'*, the external and internal condyles; *gg'*, **Osc. crithoideum externum**, (S.-D.); *i*, **Osc. crithoideum internum**, (S.-D.); *qr*, "linea aspera" externa; *ps*, "linea aspera" interna.
 111, **Tibia**; *abd*, *abe*, superior, or proximal head of same; *a*, its angle; *ab*, its epiphysis, and cartilaginous facet against which is applied the ligament of the **Patella**; *be*, external condyle, *b'd'*, internal; *f'g'h'i'*, inferior, or distal head; *h'*, tuberosity forming the **malleolus internus**; *g'*, groove for the **M. flexor pollicis**; *h*, **O. popliteum**, (S.-D.); *e*, groove for **M. tibialis posticus**.
 112, **Fibula**; *ab*, its superior or proximal head; *cde*, its inferior, or distal head; *d*, tuberosity forming the **malleolus externus**; *cd*, groove for the tendon of **M. peronæus primus**.
 113, **Patella**, or knee pan (Fr. *Rotule*).
 115, **Tarsus**, composed of seven bones; *ab*, **astragalus**; *a*, its "trochlea"; *b, b', p. navicularis* (astragali). *cde'*, **calcaneum**; *cd*, **tuber calcis**; *e*, external tuberosity; *hh'*, **O. naviculare**; *i'*, **O. chalcioideum**, (S.-D.). = **O. cuneiforme primum**; *k*, **O. cuneiforme**, (S.-D.) = **O. cuneiforme secundum**; *l, l'*, **O. epitrium** (S.-D.). = **O. cuneiforme tertium**; *m*, **O. cuboideum**.
 116, **Metatarsus**, composed of 5 bones, I, II, III, IV, and V,—*a, b, c, d*, and *e*.
 117, The toes composed of five bones each; *a, a'*, **orsa sesamoidea**; *bcd, efg*, and *hikl*, are the phalangeal bones—**Ossa primi, secundi and tertii-phalangis**, (pedis).

Plate XII.

FIG. 1. *The skull seen from above, with nothing absent but the external ear.*

- 1, **O. nasale**; *h*, **C. epirhinalis**; *i*, **C. parrhinalis**.
 2, 2', **O. frontis**.
 2, *abcdfg*, frontal lamina of same *ae*, **p. metopium** (frontis, (S.-D.)); *d*, **p. angularis**; *ag*, "frontal suture"; *df*, commencement of the curved "temporal line"; *de*, "orbital arch".
 2'', orbital lamina, of **O. frontis**.
 2', 3, 12, 12', "temporal fossa".
 3, **O. parietale**; *fh*, crest forming the continuation of the curved temporal line, circumscribing the temporal fossa above; *gh*, **sutura sagittalis**.
 4, **Oo. wormiana**; *ii*, **sutura lambdoida**.
 5, **O. supraoccipitale** (Owen); *aa*, **cresta occipitalis**.

- 6, **O. premaxillare**; *g*, 3d incisor, seen shortened.
- 7, **S. O. maxillare (superius)**.
- 7, The palatine lamina of same, seen in the orbit.
- 8, The lamina forming the **p. nasalis**.
- 9, Part of the **O. palatina**.
- 10, **O. lacrymale**; *ag*, **can. lacrymalis**;

- b*, tuberosity situated at the opening of the canal.
- 11, Canine tooth—shortened.
- 12, 12', Part of **O. squamosum**, *ck*, squamous lamina; *ki*, posterior prolongation; 12', **p. zygomaticus**.
- 13, **O. malare**; *a*, frontal process, **p. frontalis**; *b*, **for. infraorbitale (maxillaris)**.

FIG. 2. *Inferior view of the skull; the lower jaw, the teeth of the right side and the hyoid apparatus are removed.*

- 1, **O. presphenoideum**, or "rostral" process.
- 2, Part of the orbital lamina of the **O. frontis**.
- 3, 3', 3'', The "**Sphécöide**", (Str.-Dur.), **O. basisphenoideum**, or body of "**Sphécöide**"; 3', **O. pterygoideum**, *de*, "hamular process", **p. pterygoideus internus**; 3'', **O. alisphenoideum**, or "ptérale" process; *f*, **for. rotundum**; *g*, **f. ovale**, and entrance for the "Eustachian tube".
- 4, **O. basioccipitale**; *d*, **f. lacerum posterius**; *ee*, posterior border, concurring in the formation of the **f. magnum eei**, **f. magnum**.
- 5, Posterior extremity of the **O. vomeris**.
- 7, **O. petrosum**.
- 8, 9, "**tympanic bulla**"; 8, part formed by **O. mastoideum**; *abd*, **f. lacerum posterius**; *g*, entrance for the Eustachian tube; 9, part formed by the **O. tympanicum**; *h*, **meatus auditorius externus**.
- 10, **O. exoccipitale**; *bc*, suture with the "**supraöccipitale**"; *d*, **p. paroccipitalis**; *ee*, "occipital" condyles.
- 11, **O. supraöccipitale** ("occipital", Str.-Dur.); *aa*, occipital arch; *oo*, bor-

- der entering into the formation of **f. magnum**.
- 12, **O. premaxillare**; *a*, *b*, *c*, incisor teeth; *a'b'c*, alveoli of same; *g*, **f. palatinum anterius**; *s*, post. extremity of palatine lamella of **O. premaxillare**.
- 13, 13', **O. palatinum**; 13, *cefg*, nasopalatine lamina; *a*, *b*, **ff. palatini posteriores**; *c*, "guttural" spine; *cg*, suture between the two bones; *ef*, posterior prolongation going to join the **p. pterygoideus internus**; 13' nasal lamina of **O. palatinum**.
- 14, 14', **O. maxillare (superius)**; 14', its palatine lamina; *d*, canine tooth; *efh*, premolar teeth; *i*, molar tooth; *k*, alveolus of the canine; *l*, alveolus of 1st premolar; *mn*, alveolus of 2d premolar; *o*, *p*, *q*, alveolus of 3d premolar; *r*, alveolus of 1st molar; 14', **p. malaris (maxillaris)**; *ab*, maxillomalar suture.
- 15, **O. malare**; *ab*, maxillo-malar suture; *bf*, **p. zygomaticus (malaris)**; *d*, **p. frontalis**, extremity of.
- 16, **O. squamosum**; *adc*, **p. zygomaticus**; *ad*, transverse root of same forming the glenoid cavity for the jaw; *e*, **p.**

postglenoidalis (squamosi); *h*, **Glas-serian fissure**; *h7*, longitudinal root

of same; *adc* and *bf*, 15, together form the zygomatic arch.

FIG. 3. *Interior profile of the right half of the skull, the jaw and hyoid wanting.*

aβ, Section of an horizontal plane serving for the base of the skull, passing over the alveolar border of the incisors *γ*, and the lowest part of the occipital fossa.

γδ, Line passing by the same alveolar border and tangent to the cranial cavity *δ*, forming with the basal plane the facial angle *δγβ*.

ζη, Perpendicular to the plane *aβ*, and tangent to the anterior extremity of the cranial cavity, at the point *θ*, the part of the head in front of this line forms the "face", that behind it the "cranium".

1, **C. mesorhinalis**, forming the partition of the nasal fossæ, and representing the centrum of the rhinal vertebra, (S.-D.); *a*, anterior border separating the anterior **nares**; *b*, fissure separating this cartilage from the partition formed by the **O. ethmoideum**; *c*, **C. epirhinalis**, (S.-D.).

2, Vertical plate of the **O. ethmoideum**, forming the partition of the posterior part of the nasal fossæ, and the body, or centrum of the ethmoidal vertebra, "the second of the head," (Straus-Durckheim); *abcdl*, osseous part of this partition; *ab*, cut edge of "cribri-form plate"; *cd*, anterior cartl. part of the partition; *dhf*, inferior cartl. part of the partition.

3, Right **O. nasale**, its vertical internal lamina; *c*, **C. epirhinale**, (S.-D.).

4, **O. presphenoidium** (centrum of the

3d cephalic vertebra (Straus-Durckheim)); *fgik*, partition of the sphenoidal sinus; *goi*, **O. orbitosphenoidium** (Owen); *k*, **f. opticum**.

5, 6, **O. frontis**; *alde*, ethmoidal lamina contiguous to that of the opposite side, and separating the frontal sinus; 6, *beob*, orbital and frontal laminae.

7, **O. basisphenoidium** (centrum of the 4th cervical vertebra, (S.-D.), cut in the middle in the plane *acdik*; *c*, **p. quadratus**, (S.-D.) = ? clinoid process; *d*, **sella turcica**; *do*, **O. alisphenoidium**; *g*, **p. pterygoideus internus**.

8, 8' **O. parietale**; *eoah*, temporal lamina; *ihlmek*, bony lamina forming half of the ossified **tentorium**.

9, **O. Wormianum**.

10, " **basioccipitale**; *ab*, canal lodging the inferior "petral sinus".

11, 11', **O. petrosum** (Dulaurens), "Periotic"; *bef*, **O. petrosum** (of most writers) or "pars (petrosal"; *i*, "acoustic canal"; 11', posterior process of **O. petrosum**; *f*, the summit; *bg*, lateral groove.

12, " **Tympanic bulla** ".

13, **O. exoccipitale**; *a*, "occipital" condyle; *ab*, edge of the **f. magnum**; *e*, **f. condyloideum posterius**; *f*, **f. condyloideum anterius**.

14, **O. basioccipitale**.

15, " **premaxillare**; *ab*, its palatine lamina.

16, *hd*, **O. vomeris**; *b*, its anterior pro-

cess; *d*, its posterior process; *ef*, *O. palatinum*.

17, Dentary part of *O. maxillare* (superius).

18, Incisor teeth.

19, Canine tooth.

20, Premolar and molar teeth.

FIG. 4.—*O. ethmoideum*, superior surface.

ab, superior mass of anfractuositities;

cd, anterior mass of anfractuositities;

ef, interval for the median vertical partition; *g*, anterior extremity of *O. vomeris*.

FIG. 5.—*The same*, inferior view; *ab*, superior mass of anfractuositities; *cd*, anterior mass of anfractuositities; *b, b*, transverse lamina; *e*, anterior extremity of the median vertical partition; *g*, third mass, or "*Cornua Bertini*"; *aqfh*, the *O. vomeris* united at *aa* with the superior mass *e*.

FIG. 6.—*O. ethmoideum*, posterior view;

ab, superior mass; *cd*, anterior mass;

e, e, "*Cornua Bertini*"; *ffbbgg*, "*cribriiform plate*", separated above by a fissure into which the two vertical lamina of the *Oo. frontes* penetrate.

FIG. 7.—*The same—left side*; *abcm*, superior mass; *befgc*, anterior mass; *bgc*, transverse lamina; *g*, "*O. planum*"; *ihm*, *Cornua Bertini*; *dmh*, edge of "*cribriiform plate*"; *nikl*, the *O. vomeris* soldered to the *O. ethmoideum* at the point *i*; *lk*, edge by which it is suturally united with the *Oo. palatina*; *kn*, infero-posterior border, free in the nasal fossa.

FIG. 8.—*The left C. parrhinalis*, (S.-D.), and *C. alaris nasi*, (S.-D.), showing the internal surface; *acbg*, *C. parrhi-*

nalis, (S.-D.); *def*, *C. alaris nasi*, (S.-D.); *acb*, the superior cut edge of the *C. parrhinalis*, (S.-D.), being continuous with that of the *C. mesorhinalis*, (S.-D.); *cg*, oblique crest, lateral prolongation of the crest of same cartl; *be*, lateral edge of the nares; *adf*, border by which the two pieces are posteriorly continuous with the *O. maxilloturbinale* (Owen).

FIG. 9.—*The left O. maxilloturbinale* (Owen), internal view; *ab*, lamina of origin, being articulated with the nasal process of the *O. maxillare* (superius); *ce*, posterior edge united by suture with the oblique crest of the same bone; *ac*, truncated angle next the *O. lacrymale*; *d*, vertical lamina arising from the lamina of origin; *ef*, secondary lamina forming several folds in front.

FIG. 10.—*Nasal bone, O. nasale*, external view; *ab*, anterior extremity; *cd*, a lamina suturally separated from the vertical lamina of the *O. frontis*; *e*, a part of the nasal fossa.

FIG. 11.—*The O. lacrymale*, external view; *a*, tuberosity forming part of that of the adjacent *O. maxillare*, which is often wanting; *ab*, lachrymal groove, and edge which joins with the *p. nasalis* (supermaxillæ); *cd*, border of articulation with the *p. antorbitalis*; *de*, that with the *p. orbitonasalis*, (S.-D.), of the *O. palatinum*; *eg*, that with the body of the *O. max.* (sup.); *g*, groove receiving the extremity of the *O. malare*.

FIG. 12.—*The same*, internal view; *af*, border of articulation with the *p. nasalis* (maxillaris sup.); *b*, angle of articula-

tion with the **O. maxilloturbinalis** (Owen), and the **O. malare**; *eg*, border articulating with the orbito-nasal fold of the **O. palatinum**; *acd*, that united to the orbital lamina of the **O. frontis**.

FIG. 13.—The “Sphenoid” Bone, superior view; *ab*, the body of the bone. **O. presphenoidium** (Owen); *b*, anterior edge of the sella turcica; *ff*, supra-anterior edge of the **f. lacerum anterius**; *cd*, line of articulation with **O. frontis**; *dd*, *pp*. **Ingrassiani**, or “processes of Ingrassias”; *ee*, *ff. optici* and grooves uniting them, and in which the optic nerves lie; *ac*, *ac*, orifices of the “sphenoidal sinus”.

FIG. 14.—The same, inferior view; *ab*, protuberance forming what is called the “rostrum”, or **p. azyges**; *a*, its anterior extremity; *ac*, orifices of “sphenoidal sinus”; *cd*, border of articulation with the “orbito-nasal” lamina of the **O. palatinum** and the **p. pterygoideus internus**; *edf*, border of articulation with **O. alisphenoidium** (Owen); *ff*, surface of articulation with **O. basisphenoidium** (Owen).

FIG. 15.—The same, showing the left side; *ab*, **O. orbitosphenoidium** (Owen); *bcd*, articulates with the **Oo. palatina** and the **p. pterygoideus internus**; *de*, internal edge of the **f. lacerum anterius**; *ae*, margin uniting with **O. alisphenoidium**; *f*, **f. opticum**.

FIG. 16.—The same, anterior view; *ab*, partition of the “Ethmoidal sinus” *c*, *c*, *a*, end view of the inferior edge of the **p. azyges**; *ef*, *ef*, **O. orbitosphenoidium** (Owen).

FIG. 17.—The same, posterior view; *b*, inferior edge of the **p. azyges**; *c*, *c*, **O. orbitosphenoidium** (Owen); *cd*, surfaces of articulation with the “orbital lamina” of the **Oo. frontis**; *e*, *e*, *ff. optici* and grooves for the optic nerves; *cf*, surface of articulation with the **Oo. pterygoidei**; *fi*, supra-internal edge of the **f. lacerum anterius**.

FIG. 18.—The left Frontal bone, **O. frontis**, internal surface; *abcd*, vertical lamina applied against that of the opposite side and forming the partition between the two sinuses; *ad*, edge articulating with the **O. nasale**; *cd*, that with the single median lamina of the **O. ethmoidium**; *cdefg*, “orbital” lamina, showing the impressions of the ethmoidal anfractuositities; *ef*, edge of articulation with **O. lacrymale**; *fg*, that of articulation with the **O. palatinum**; *gh*, articulation with **O. orbitosphenoidium** (Owen); *bh*, articulation with **O. parietale**; *bch*, surface entering into the wall of the cranial cavity.

FIG. 19.—The left **O. palatinum**, superior view; *a-i*, “orbito-nasal” lamina; *ab*, articulation with **O. lacrymale**; *bd*, articulation with the orbital lamina of the **O. frontis**; *de*, articulation with the **O. orbitosphenoidium** (Owen); *ef*, articulation with **p. zygomaticus**; *fh*, infra-lateral free edge where the “orbito-nasal” lamina is folded back to form the “naso-palatine” lamina; *h*, **f. spheno-palatinum**; *e*, “posterior palatine canal”; *ghl*, naso-palatine lamina; *ag*, articulation with orbital lamina of the **O. maxillare** (super-

ius); *km*, articulation with the palatine lamina of same; *kl*, articulation with the opposite bone.

FIG. 20.—*The same, external surface; ei*, orbito-nasal lamina; *a b d e f g h i k*, as in fig. 19; *gk*, external edge of the “naso-palatine” lamina articulating with the “palatine” lam. of the *O. maxillare* (superius).

FIG. 21.—*The left O. maxillare* (superius), internal surface; *ac*, median surface; *b*, articulation with *O. maxilloturbinalis* (Owen); *cd*, maxillo-palatine suture; *eg*, articulation with the *O. malare*; *gj*, articulation with the *O. lacrymale*; *jk*, articulation of the orb. lamina of the *O. frontis*; *aih*, articulation with the *O. premaxillare* (Owen); *fg*, crest upon which is articulated the “orbito-nasal” lam. of the *O. palatinum*, and the *O. lacrymale*; *gik*, *p. nasalis*; *gi*, groove forming, with the *O. maxilloturbinalis* (Owen), the nasal part of the lacrymal canal; *l*, the canine tooth; *m*, *n*, *o*, the three premolar teeth; *p*, the molar tooth.

FIG. 22.—*The left O. premaxillare and maxillare united, of an individual at the age of dentition, the two bones are opened on the internal surface to allow the germs of the secondary teeth to be seen; ab*, *O. premaxillare*; *c*, internal incisor teeth, already replaced; *e*, the third permanent incisor; *def*, *O. maxillare* (superius); *de*, “body” of the bone; *df*, its *p. nasalis*; *d, f.* *infraorbitale*; *g*, temporary canine tooth; *h*, permanent canine tooth; *i*, 1st permanent premolar tooth; *j*, germ of the 2d permanent pre-

molar; *k*, 2d temporary premolar tooth; *l*, 3d permanent pre-molar tooth.

FIG. 23.—*Left O. premaxillare of an adult, internal surface; bcd*, palatine lamina; *be*, *p. nasalis*; *ad*, internal edge joining with the bone of the opposite side; *f*, incisor teeth.

FIG. 24.—*O. basisphenoideum* (Owen), *O. alisphenoideum* (Owen) and *O. pterygoideum united, superior view; abb*, *O. basisphenoideum* (Owen); *c*, “*sella-turcica*”; *dd*, *p. quadratus*; *d, d*, *pp. clinoides posteriores*; *ohi*, *O. alisphenoideum* (Owen); *fgo*, its posterior lobe; *bef*, channel forming part of the *for. lacerum anterius*; *i*, groove terminating at the orifice of the *canalis Vidianus*; *k*, *for. rotundum*; *l*, *for. ovale*; *mn*, *O. pterygoideum*, united by squamous suture with *O. presphenoideum* and *O. palatinum*.

FIG. 25.—*The same, inferior surface; abb*, body of the vertebra, or *O. basisphenoideum*; *ac*, fissure terminating at the orifice *c*; *c*, *can. Vidianus*; *d*, *for. rotundum*; *bef*, channel converted into a foramen in old subjects, corresponding to a part of the *for. lacerum anterius*; *an*, articl. with *O. presphenoideum*; *mn*, articl. with *O. palatinum*; *k*, *p. pterygoideus internus*; *canmj*, *O. pterygoideum*; *ohi*, *O. alisphenoideum* (Owen); *ofg*, posterior lobe of same; *i*, channel forming part of the *f. lacerum anterius*; *j*, *for. ovale*.

FIG. 26.—*The same, as seen from left side; a*, posterior base of “body of the vertebra; *bd*, *p. pterygoideus in-*

ternus; *e*, lamina forming the *O. pterygoideum* and articulating in front at *b* with the *O. palatinum*, and inside with the *O. presphenoideum*; *f*, *for. ovale*; *g*, *for. rotundum*; *hi*, *O. alisphenoideum* (Owen); *ak*, its posterior lobe.

FIG. 27.—*The two Ossa parietalia united. Posterior view*; *a*, "*sutura sagittalis*"; *abed*, articl. with *O. Wormianum*; *abg*, posterior edge; *eghl*, the "*Tentorium*"; *k*, *k*, median depression of the cerebellar fossa; *n*, *n*, lateral cerebellar impression; *hi*, articl. with the posterior lobe of the *O. alisphenoideum*; *go*, squamous suture with the *O. squamosum*.

FIG. 28.—*Left Os squamosum of a young subject, posterior view*; *a*, "posterior process"; *b*, "squamous" portion; *adc*, *p. zygomaticus*; *da*, posterior or longitudinal root; *efd*, anterior or transverse root bearing the glenoid cavity *cf*; *de*, zygomatic branch; *f*, *p. postglenoidalis*.

FIG. 29.—*The same, internal surface*; *a*, "posterior process"; *bd*, squamous part, making part of the wall of the cranial cavity; *aif*, portion articulating with *Os mastoideum* and *Os petrosum*; *ef*, superior edge of *Os tympanicum*; *defi*, portion of the ossicular cavity of the *tympanum*; *de*, part with which the *caput mallei* articulates; *di*, place in which the *Incus* lies fixed by means of the *Lig. squammo-incudeum*, (S.-D.); *i*, *Lig. squammo-incudeum*, (S.-D.); *cd*, extremity of *p. zygomaticus*; *h*, *p. postglenoidalis*.

FIG. 30.—*The two "Mandibulæ", or Ossa*

maxillare inferiora, the teeth being removed from the left "*ramus*", superior view; *ab*, the condyle of the jaw; *bc*, dental branch, or "*ramus*"; *cd*, *symphysis menti*; *e*, *p. genianus*; *f*, summit of *p. coronoideus*; *g*, alveoli of the incisive teeth or "*incisors*"; *h*, alveolus of the canine tooth; *i*, the two alveoli of the 1st premolar tooth; *k*, the two alveoli of the 2d molar tooth; *l*, " " " " 3d " " ; *m*, "*Incisors*", or incisive teeth; *n*, canine tooth; *o*, 1st premolar tooth; *p*, 2d molar tooth; *q*, 3d molar tooth; *r*, base of *p. coronoideus*.

FIG. 31.—*The left Mandibula; external surface—at age of dentition, outer walls partly removed so as to show the disposition of the germs of the permanent teeth*; *a*, permanent "*Incisors*" of which the two internal ones are already developed; and the third partly so; *b*, temporary canine tooth, ready to fall out; *c*, permanent canine tooth, still concealed in the *Mandibula*; *d*, 1st temporary premolar; *e*, 1st permanent molar, as yet only the crown is developed, which is still enclosed in the body of the *Mandibula*; *fg*, second and last temporary premolar; *h*, the crown of the one to replace it; *i*, germ of the third premolar, still entirely concealed in the *Mandibula*, with the roots as yet very short; *k*, *p. coronoideus*; *l*, condyle of the *Mandibula*; *m*, *p. angularis* (mandibulæ).

FIG. 32.—*The Incisive teeth of an adult*; *ab*, the first or internal; *cd*, the second; *ef*, the third; *a*, *c*, *e*, their roots; *bd*, *f*, their crowns.

- FIG. 33.—The left canine tooth; *a*, the root; *b*, the crown.
- FIG. 34.—The first left premolar tooth, outer face; *a*, the root; *b*, crown.
- FIG. 35.—The second left premolar; *a*, anterior and, *b*, posterior roots; *cde*, the crown; *cd*, its "border"; *c*, anterior lobe; *df*, posterior lobes; *e*, median lobe.
- FIG. 36.—The third left premolar; *a*, antero-external root; *b*, antero-internal root; *c*, posterior root; *def*, crown; *de*, border of its base; *d*, anterior lobes; *f*, third lobe; *ge*, fourth lobe.
- FIG. 37.—The true molar tooth, or "tubercular", outer face; *ab*, roots; *cd*, crown.
- FIG. 38.—The upper left first temporary premolar.
- FIG. 39.—The second upper temporary premolar; *a*, antero-external root; *b*, antero-internal root; *c*, posterior root; *dh*, border; *e*, second lobe; *f*, third lobe; *g*, fourth lobe.
- FIG. 40.—The same, inner face, lettering same as in Fig. 39; *i*, "talon" or "spur" of the antero-internal root.
- FIG. 41.—The third or last temporary premolar of the left side; *A*, outer face; *abc*, the three roots; *d*, crown; *B*, crown, seen from below.
- FIG. 42.—The left inferior incisive teeth of an adult, seen from in front; *ab*, the first or internal; *cd*, the second; *ef*, the third; *ace*, their roots; *bdf*, their crowns.
- FIG. 43.—The left inferior canine tooth; *a*, root; *bcd*, crown; *bc*, border of the latter.
- FIG. 44.—The first left premolar, outer face; *ab*, its roots; *cd*, its crown, divided into three lobes; *cd*, its border.
- FIG. 45.—The second left premolar; lettering same as in Fig. 44.
- FIG. 46.—The third left premolar, outer face, lettering same as in Fig. 44.
- FIG. 47.—The left **Os petrosum**; **Periotic** (Huxley), *Infra-lateral surface*; *abcd*, interior part, or **Os petrosum** proper, or **pars petrosa**; *df*, exterior part, forming a process between the **Os squamosum** and **p. condyloideus**; *b*, **p. rhincoideus**, (S.-D.); *cd*, inferior border contiguous to the **O. basioccipitale** (Owen), *basilaire* (Str.-Dur.); *e*, cavity of the pyramid—(**eminentia pyramidalis tympani**); *g*, **hiatus Fallopii**; *iko*, "Promontory", or **tuberositas tympani**; *i*, **fenestra cochlearis**; *l*, **fenestra vestibularis**, seu **ovalis**; *k*, a "digital impression"; *m*, ossicular cavity of **Tympanum**.
- FIG. 48.—The same, *supra-internal*, or *supra-posterior face*; *abcd*, *df*, *b*, *cd*, *g*, same as in Fig. 47; *e*, protuberance containing the "semi-circular canals"; *k*, acoustic canal.
- FIG. 49.—**Os petrosum** (**Periotic** (Hux.)) of a young subject, enlarged three diameters, *inferior face*, *semi circular canals and cochlea laid open*; *a*, **p. rhincoideus**, (Str.-Dur.); *adb*, anterior border; *bc*, internal *infra-posterior* border, contiguous to **Os basi-occipitalis**, and cut by a deep groove, lodging the inferior "petrosal sinus"; *d*, **hiatus Fallopii**; *f*, **can. semicircularis verticalis posterior**; *ghj*, **can. semicircularis horizontalis**; *k*, **fenestra vestibularis**; *t*, **fenestra cochlearis**; *ghn*, the "promontory" *lmqzorp*, the **cochlea**;

mcp, *scala posterior cochleæ* laid open; *o*, the *cupola*, or summit of *cochlea*; *rs*, partition, separating the first two turns of the spire of the *cochlea*; *pq*, and *tx*, *lamina spiralis* separating the two *scalæ*; *u*, "digital impressions"; *v*, portion of the ossicular cavity.

FIG. 50.—The same, superior surface, the semi-circular canals opened; *a*, *bc*, *d*, same as in Fig. 49; *ae*, part produced along with the *p. exterior*, (S.-D.); *fg*, *can. semicircularis verticalis posterior*; *i*, *can. semicircularis horizontalis*; *k*, *meatus auditorius internus horizontalis*; *l*, *aquæductus cochleæ*; *m*, orifice of the canals conducting the vestibular branches of *n. auditorius*.

FIG. 51.—The "mastoid" (*p. mastoideum*) and *Os tympanicum* of young subject, internal view; *abcdie*, *p. mastoideum* enclosing the mastoid cells; *dle*, partition separating the latter from the *Tympanum*, forming external part of the *Os Tympanicum*; *fgihelk*, the *Tympanum*; *c*, process articulating with the *O. basisphenoidem*; *dc*, groove converted into a canal by the oblique process of *O. basisphenoidem* communicating with the guttural fossa in the *Tympanum*, and lodges the Eustachian tube and *M. Folianus*, (Str.-Dur.); *o*, *p. sulcatus*, (*apop. canellée*, Str.-Dur.); *lk*, groove lodging the tendon of *M. Folianus*, (S.-D.).

FIG. 52.—The *Os tympanicum* of a cat a day old, with the *manubrium*, and the neighboring portion of the *Os squamosum* that completes the tympanal

ring, i.e., the *p. auditorius abc*, *Os tympanicum*; *ab*, its anterior branch; *bc*, posterior branch; *de*, neighboring part of *Os squamosum*; *fg*, *manubrium mallei*.

FIG. 53.—The *Ossicula auditus* united, enlarged three diameters, infra-external view; *abc*, the *stapes*; *a*, apex of latter and the *Os orbiculare*; *bc*, the "base"; *d*, *Lig. incuso-orbiculare*; *def*, the *Incus*; *de*, *p. longus*, or infra-internal branch of same; *e*, head of *Incus*; *f*, *p. brevis* supra-external branch of *Incus*; *ikgn*, the *Malleus*; *g*, head of *Malleus*, or *caput mallei*; *hi*, facet by which the *manubrium* adheres to the *membrana tympanum*; *hl*, *cervix mallei*; *ie*, *manubrium mallei*; *kl*, rim of the arthrodial facet with the *Incus*; *lmn*, lamina occupying space between *caput* and *cervix mallei*; *hn*, raised edge, representing the *p. gracilis* (of anthrop.).

FIG. 54.—The left *Malleus*, natural size, infra-external view.

FIG. 55.—*Malleus*, magnified; *ad*, arthrodial facet with the *Incus*; *bcg*, lamina between *caput* and *cervix*; *eg*, edge corresponding to the *p. gracilis* (anthp.); *gh*, *manubrium*; *ef*, *empatement* adhering to the suture of the *O. squamosum* with *O. petrosum*, (S.-D.); *k*, *caput mallei*.

FIG. 56.—Same, opposite side; *ad*, *ef*, and *k*, as above; *hi*, *manubrium*; *i*, *p. brevis*; (*petite apop.*) (S.-D.).

FIG. 57.—The *Incus*, left, seen from the outer side, and natural size.

FIG. 58.—*Incus* and *Os orbiculares* enlarged; *a*, articular facet of head;

b, supra-external branch; *c*, infra-internal branch; *d*, **Lig. incuso-orbiculare**; *e*, **Os orbiculare**.

FIG. 59.—*The same, seen from behind, lettering as in Fig. 58.*

FIG. 60.—*The same, front view, lettering as in Fig. 58.*

FIG. 61.—**Os orbiculare**, natural size.

FIG. 62.—**Os orbiculare**, enlarged three times.

FIG. 63.—*The Stapes* natural size.

FIG. 64.—*The Stapes*, three times enlarged; *ab*, its "base"; *c*, its apex, or "head".

FIG. 65.—*The "base" of the Stape.*

FIG. 66.—*The external ear, external view; a-f, meatus auditorius externus (le cornet); a, its languette, or tongue; abcd, the first piece, enveloping the auditory canal; cdef, second piece; efinkmh, the concha; i, the antitragus; ikn, the upright process of antitragus, (apop. montante), (S.-D.); k, the depression of the "cuilleron", (S.-D.); hop, the "auricula", (Pavilion, or Pinna) of the ear; r, the lobule; s, extremity of one side making part of the anthelix.*

FIG. 67.—*The same, internal view; a-f, a, abcd, adef, hop, same as in Fig. 66; efihjm, the concha; gh, re-entrant fold forming the anthelix, and of which the lips are united by the ligament of the helix (L. helices); il, upright process of the antitragus; lop, opening of the ear; m, prominence corresponding in the interior to the navicular fossa, (sulcus inter-helicem); n, the antilobium.*

FIG. 68.—*The same, anterior view; a-g, meatus auditorius externus; abcde,*

first piece of same; a, the languette; cde, cylindrical piece; edgf, second piece of same; fghijk, the concha; fg, the interval between the concha and the meatus auditorius externus; h, the tragus; i, the principal tuberosity of the antitragus; nu, upright process of the latter; pokrt, the auricula (the Pavilion, or Pinna); spom, opening of the ear; qr and k, sides forming the anthelix; t, principal tuberosity of the anthelix.

FIG. 69.—*The internal half of the left ear, side view; a, first piece of the meatus auditorius externus; cdef, second piece of the meatus auditorius externus; ejhk, the concha; hop, the auricula, (Pavilion, or Pinna); m, navicular fossa, or sulcus inter-helicem; n, principal tuberosity of the anthelix.*

FIG. 70.—*abed, first piece of "cornet"; cdef, second piece of "cornet"; efijk, concha; jph, auricula; h, fold of the anthelix; n, "cuilleron", (S.-D.); kr and jp, sides forming part of the latter; lmiq, lamina forming the apop. montante, (S.-D.) of the antitragus, of which i is the principal tuberosity.*

FIG. 71.—**"C. thyroidea"**, or, **C. scutiformis**, *view from above; a, anterior extremity; ab, internal margin; ac, external margin; bc, posterior margin adjacent to the concha.*

FIG. 72.—**Os basi-occipitalis** (Owen), *under surface; aa, anterior margin, articulating with the Os basi-sphenoideum, (Owen); ab, margin next the Os petrosum with which it forms the canal lodging the inferior*

petrosal sinus; *bc*, margin forming part of the *f. lacerum posterius*; *cd*, margin of articulation with *Os exoccipitalis* (Owen); *dd*, inferior margin of *f. magnum*.

FIG. 73.—The same showing its cranial surface, forming the basilar fossa. Lettering same as in Fig. 72.

FIG. 74.—Anterior extremity of *Os basi-occipitale*, (Owen).

FIG. 75.—Posterior extremity of same.

FIG. 76.—The two *Ossa exoccipitalis* and the *Os supra-occipitale* united, viewed from behind; *abde*, *Os exoccipitale*, (Owen); *ab*, suture between *Ossa ex-* and *supra-occipitalis*; *al*, margin of articulation with the exterior prolongation of *Os petrosum*; *cd*, occipital condyle; *de*, margin of articulation with *Os basi-occipitale*; *f*, *f. magnum*; *eg*, *p. jugularis*; *i*, fossa condyloidea anterior; *k*, fossa condyloidea posterior; *baaab*, *Os supra-occipitale*, (Owen); *aha*, sutura lambdoidea, lambdoidal suture.

FIG. 77.—The same viewed from in front, lettering same as in Fig. 76; *m*, surface of *p. jugularis* applied against the *Os mastoideum*; *o* and *n*, fossa cerebelli.

FIG. 78.—*Os Wormianum*, cerebral surface; *ab*, margin articulating with *Os parietale*; *bb*, margin of articulation with *Os supra-occipitale*.

FIG. 79.—The same, posterior view; *ac*, "Wormian crest"; *ab*, margin articulating with *Os parietale*; *bb*, margin articulating with *Os supra-occipitale*.

FIG. 80.—The "Hyoid" and the "Laryngeal" apparatus united, and viewed from in front; *a, b, c, d*, elements of the anterior cornua of the Hyoid apparatus; *a*, *C. stylohyoidea*; *b*, stylohyal (Owen); *c*, epihyal (Owen); *d*, ceratohyal (Owen); *e*, cartilaginous termination of *Basihyal* (Owen); *f*, *Basihyal*, (Owen); *g*, *Thyrohyal*, (Owen), laryngeal cornu; *hijkl*, *C. thyroidea*; *k*, cornu superius; *lol*, *C. cricoidea*; *m*, the epiglottis, or *C. epiglottidea*; *n*, membrana crico-thyroidea.

FIG. 81.—The Larynx; posterior view; *abab*, *C. thyroidea*; *a*, cornu superius of same; *cdd*, the "chaton" of the *C. cricoidea*; *e, e*, *Cc. arytaenoides*; *fg*, the Epiglottis, *C. epiglottidea*.

Plate XIII.

FIG. 1. The vertebral column extended, under surface, bearing the Pelvis, in position; the vertebræ in their numeric order from the atlas to the tenth caudal.

1-7, Cervical vertebræ, vertebræ cervicis.

1, The Atlas, or 1st cervical vertebra; *a*,

centrum (Owen), corps - "body"; *b*, neurapophysis (Owen), "lamina", "lame" *c, c*, *pp. antobliqui*, (S-

- D.), **anterior zygapophyses** (Ow.), with their articular facets, for the arthrodial articulation with the **occipital condyles**; *dd*, **pp. postobliqui**, (S.-D.), **posterior zygapophyses** (Owen); *ee*, **pp. transversi, diapophyses** and **parapophyses** (Owen) blended, the transverse (superior and inferior) processes, or "*apop. transverses et plagiennes*" (Str.-Dur.); *ff*, canal for the **arteria vertebralis**; *gg*, notch between the **pp. transversus** and **antobliquus**, (S.-D.).
- 2, *a-e*, the **Axis**, or 2d cervical vertebra; *a*, centrum; *b*, the posterior **epiphysis**; *h*, the **p. odontoides**, extending beyond the centrum of the Atlas; *dd*, **pp. antobliqui**, (S.-D.), only slightly prominent; *e*, *e*, **pp. transversi**.
- 3-5, The three next following vertebrae; *a*, **centra**; *b*, **posterior epiphyses**; *c*, **anterior epiphyses**; *d*, *d*, **parapophyses** (Owen), **pp. costellares**, (S.-D.); *e*, *e*, **pp. transversi**.
- 6, The sixth cervical vertebra; *a*, **centrum**; *d* and *d'*, the two branches of the **pp. costellares**, (S.-D.); *ee*, **pp. transversi**.
- 7, Seventh cervical vertebra, lettering as on 6.
- 8-20, Dorsal vertebrae, **vertebrae dorsi**. 8-17 support "true" ribs.
- 18, 19 and 20 support "false" or "floating" ribs; *a*, **centra**; *bb*, **pp. transversi superiora**; *cc*, articular facets on the **pp. transversi**, or **tubercular transverse process** (Huxley), for the articulation of the ribs; *dd*, 13-20 **pp. plagii**, (S.-D.), **diapophyses** (Owen); *ee*, glenoid cavities for the heads of the ribs, the "**parapophyses**" of Owen, and "**capitular transverse processes**" of Huxley.
- 21-27, Lumbar vertebrae, **vertebrae lumbi**, *a*, *bb*, and *dd*, as above (17-20).
- 28-30, The three sacral vertebrae, **vertebra sacri**.
- 28, 29, The two sacro-iliac vertebrae.
- 30, The sacro-caudal vertebrae; *a*, **centra**; *bb*, **pp. transversi (superiora)**, *dd*, **pp. plagii**, (S.-D.); *ee*, *ff*, **sacrales**.
- 31-34, Three caudal vertebrae concealed in the pelvis; *h*, the "**costettes**", (S.-D.), other lettering as just above.
- 36-40, Free costal vertebrae, *Vv.*; *ii*, **pp. mamillares**, (S.-D.), other lettering as above.
- 41, 42, and 43, The **Pelvis**.
- 41, The Ilium, **Os ilium**; *ah*, **Iliac crest** (or spine); *a*, antero-superior iliac spine; *c*, antero-inferior iliac spine; *e*, **Iliopectineal eminence**; *fgjk*, **fossa cotyloidea**, or **acetabulum**; *jk*, **cotyloidian notch**.
- 42, The Ischium, **Os ischium**; *gi*, body of the bone, or its iliac branch; *i*, **tuber ischii**, or **ischiatric tuberosity**; *im*, **ischiatric crest**; *lm*, **ischiatric symphysis**, and **pubic branch**.
- 43, The **Os pubis**; *us*, **abdominal branch**; *o*, **pubic spine**; *lo*, **longitudinal branch** and **symphysis of pubis**; *np*, **f. obturatorium**.
- FIG. 2.—The Atlas, seen from above; *a*, "**centrum**"; *b*, "**lamina**" (**neurapophysis** (Owen)), and trace of **p. spinosus** (**neural spine** (Owen)); *cc*, **pp. antobliqui**, (S.-D.), (**anterior zygapophyses** (Owen)); *dd*, **pp. postobliqui**, (S.-D.), (**posterior zygapophyses** (Owen));

(Owen)), bearing the arthrodian facet; *ee*, **pp. transversi**; *ff*, **f. atlantoidæum** or **f. intervertebrale**; *gg*, **pp. plagii**, (S.-D.).

FIG. 3.—*The same*, anterior view; *a*, *b*, *c*, *d*, and *e*, as in Fig. 2; *d*, **can. vertebralis**; *f*, **Lig. transversum atlantis**, (S.-D.); *g*, **Lig. transversum** (atlantis).

FIG. 4.—*The same*, posterior view; *a*, *b*, *d*, same as in Fig. 3; *c*, *c*, lateral posterior arthrodial facets; *ee*, **pp. plagii**, (S.-D.); *ff*, **can. vertebrarterialis**.

FIG. 5.—*The Axis*, seen from the left side; *a*, **centrum**; *b*, **p. odontoides**; *cd*, **p. spinosus** (or neural spine, (Owen)); *e*, articular facet of the **p. postobliqui**, (S.-D.); *f*, articular facet of the **p. antobliqui**, (S.-D.); *g*, **p. transversus**; *h*, **can. vertebrarterialis**.

FIG. 6.—*The same*, posterior view; *a*, base of the **centrum**; *b*, **can. vertebralis**; *c*, **p. spinosus**; *dd*, articular facets of the **p. postobliqui**, (S.-D.); *ee*, **pp. plagii**, (S.-D.); *i*, **can. vertebrarterialis**.

FIG. 7.—*The same of a subject five months old*, anterior view; *a*, **centrum**; *b*, anterior epiphysis of the **centrum**; *c*, posterior epiphysis; *d*, body of the **p. odontoides**; *e*, epiphysis of **p. odontoides**; *fi*, *fi*, articular facets of **pp. antobliqui**, (S.-D.); *gg*, **pp. transversi**; *nh*, **can. vertebrarterialis**.

FIG. 8.—*The fourth cervical vertebra*, anterior view; *a*, **centrum**; *b*, **p. spinosus**; *c*, **can. vertebralis**; *dd*, articular facets of the **p. antobliqui**, (S.-D.); *ee*, **can. vertebrarterialis**; *fg*, *fg*, **pp. costellares**, (S.-D.); *hh*, articular facets.

FIG. 9.—*The same*, posterior view; lettering same as in Fig. 8.

FIG. 10.—*The tenth dorsal vertebra*, superior view; *a*, **centrum**; *ab*, **p. spinosus**; *cc*, articular facets of the **pp. antobliqui**, (S.-D.); *dd*, **pp. postobliqui**, (S.-D.); *ee*, **pp. antobliqui**, (S.-D.); *ff*, **pp. plagii**, (S.-D.); *gg*, **pp. transversi**.

FIG. 11.—*The same*, lateral view. Lettering same as in Fig. 10. *h*, **f. intervertebrale**; *i*, articulation of the rib; *k*, anterior epiphysis; *l*, posterior epiphysis.

FIG. 12.—*The eleventh dorsal vertebra*, or first bearing a false rib (called "*la première vert. lombaire costinifère*" Str.-Dur.); superior view. Lettering same as in Fig. 10.

FIG. 13.—*The same*, left side. Lettering same as in Figs. 10 and 11; *h*, arthrodial facet of the rib.

FIG. 14.—*The first lumbar vertebra* (called "*la quatrième vert. lombaire non costinifère*," by Str.-Dur.); superior view. Lettering (except *e*, and *f*), same as in Fig. 10; *ee*, **pp. transversi**; *ff*, **pp. plagii**, (S.-D.).

FIG. 15.—*The first caudal vertebra*; superior view. Lettering same as in Fig. 14.

FIG. 16.—*The first left Rib*, (*costa*), posterior view; *a*, the "*head*," (*capitulum*); *b*, "*tuberosity*" (*tuberculum*); *c*, "*angle*," (*angulus*); *d*, "*neck*," (*collum*); *e*, the inferior extremity.

FIG. 17.—*The ninth Rib*. Lettering as in Fig. 16.

FIG. 18.—*The left Pelvic bones*, inner surface; *ab*, epiphysis of the iliac crest; *abcd*, "*palette*" of the **Ilium**; *a*, antero-superior iliac spine; *c*, antero-

inferior iliac spine; *cgkk*, mark of the articulation of the first sacral vertebra; *hik*, arthrodial facet of that articulation; *di*, ilio-sacral eminence; *j*, the "neck" of the pelvis; *de*, ilio-sacral notch; *cf*, "abdominal notch"; *e*, "ischiatric spine"; *f*, ilio-pectineal eminence; *l*, pubic spine; *lm*, ischio-pubic symphysis; *nm*, "ischiatric crest"; *ne*, "ischiatric notch"; *n*, tuber ischii; *op*, f. obturatorium.

FIG. 19.—*The same, of a subject five months old, external face; abcde*, the **Os ilium**; *ab*, epiphysis of the **O. ilium**; *efgnik*, the **Os ischium**; *cdigh*, the **Os pubis**; *dik*, the **Os cotyloideum**, (S.-D.); *dm*, fossa cotyloidea; *in*, f. obturatorium.

FIG. 20.—*The Os cotyloideum*, (S.-D.), isolated, and seen from outside; *ab*, iliac margin; *bc*, ischiatic margin; *ca*, pubic margin.

FIG. 21.—*The left Clavicula, superior view; a*, sternal extremity; *b*, scapular extremity.

FIG. 22.—*The Scapula, foreshortened and seen from below; ab*, the 'body' of the bone, *cde*, the "spine"; *c*, the "tuberosity"; *d*, **p. acromialis**; *fg*, glenoid cavity; *h*, **p. coracoideus**.

FIG. 23.—*The inferior or glenoid extremity of the Scapula of a subject five months old, anterior view; a*, section of the 'body' of the bone; *bd*, 'head', bearing the glenoid cavity; *b*, epiphysis of the latter; *ce*, portion of the 'spine'; *e*, **p. acromialis**; *f*, **p. coracoideus**.

FIG. 24.—*The left Humerus, Os humeri, front view; a*, 'head'; *b*, ("trochin" (Chaus.)), radial tuberosity; *c*, bicipital groove; *def*, ("trochiter" (Chaus.)),

ulnar tuberosity; *g*, the epicondyle; *h*, the condyle; *i*, trochlea; *k*, **epitrochlea**; *l*, internal arch; *m*, arthrodial facet for the **p. coronoideus** of the ulna; *n*, 'external crest'.

FIG. 25.—*Superior head of Humeris from above; acd*, arthrodial head; *b*, radial tuberosity; *ce*, ulnar tuberosity; *d*, bicipital groove.

FIG. 26.—*Inferior head of same, from below; a*, epicondyle; *bc*, condyle; *d*, **epitrochlea**; *ef*, trochlea.

FIG. 27.—*The left Ulna, external face; ab*, **p. anconeus** or **olecranon**; *cgef*, **sinus sigmoideus major**; *cd*, superior articular facet; *ef*, inferior articular facet; *efg*, **sinus sigmoideus minor**; *f*, **p. coronoideus**; *kil*, epiphysis forming the inferior head; *l*, **p. styloideus**.

FIG. 28.—*The same, internal face; ab*, **olecranon**, or **p. anconeus**; *cd*, **sinus sigmoideus major**; *df*, **p. coronoideus**; *ikl*, epiphysis of the inferior head; *l*, **p. styloideus**; *i*, radial arthrodial facet.

FIG. 29.—*The left Radius, seen from in front; a*, superior head; *o*, bicipital tuberosity; *em*, inferior head; *n*, **p. styloideus**; *m*, external tuberosity; *e*, groove for tendon of **M. adductor longus-pollicis**, (S.-D.); *f*, groove for tendon of radial muscles; *g*, groove for tendon of **M. extensor communis digitorum**; *h*, groove for the tendon of **M. extensor proprius pollicis**, and **M. ext. proprius indicis**; *i*, groove for the tendon of the **M. extensor proprius quinti digiti**, (S.-D.).

FIG. 30. *Superior head of Radius, superior view.*

FIG. 31.—*Inferior head of Radius, inferior view*; *a*, Internal tuberosity, or *p. styloideus*; *b*, external tuberosity; *c*, groove of the *M. extensor pollicis longus*; *d*, groove of the *Mm. radiales externi*; *e*, groove of the *M. extensor communis digitorum*; *f*, groove of the extensor muscles of outer digits; *g*, carpal arthrodial facet.

FIG. 32.—*The left Scaphoid (Os scaphoides) and lunar (Os lunare) blended*; *A*, anterior view; *ade*, *Os scaphoides*; *a*, internal tuberosity; *def*, *Os lunare*; *bdf*, radial arthrodial facet; *ce*, intercarpal arthrodial facet; *cc*, intercarpal arthrodial facet; *B*, posterior view; *a*, internal tuberosity; *ab*, groove for the *M. palmaris magnus*; *f*, external tuberosity; *C*, superior view; *aefd*, *Os scaphoides*; *a*, internal tuberosity; *abdc*, arthrodial facet articulating with the *O. trapezium* and *O. trapezoides (Os trapezium or Os multangulum majus, and Os trapezoides or Os multangulum minus; cefd*, facet articulating with *Os magnum*; *ef*, facet articulating with *Os unciforme*; *e*, outside view.

FIG. 33.—*The left Os cuneiforme (carpi)*; *A*, anterior view; *a*, intra-superior extremity; *B*, internal view; *abc*, facet articulating with *Os lunare*; *c*, the external rough surface; *bc*, facet articulating with the *Ulna*.

FIG. 34.—*The left Os pisiforme*; *A*, superior surface; *abc*, ulnar articular facet; *ab*, margin of articular facet with *Os cuneiforme*; *d*, posterior tuberosity; *B*, external surface; *ab*,

and *d*, as above; *ac*, ulnar articular facet; *c*, internal surface, lettered as above.

FIG. 35.—*Os phacoides*.

FIG. 36.—*O. trapezium*; *A*, front view; *ab*, internal surface; *cd*, external surface, next the *Os trapezoides*; *B*, outer side; *ab*, anterior extremity; *c*, posterior extremity; *C*, inner side; *a*, posterior, and *b*, anterior extremities; *D*, superior surface; *ab*, posterior, and *cde*, anterior extremities.

FIG. 37.—*Os trapezoides*; *A*, superior surface; *a*, internal angle; *b*, external angle; *c*, posterior angle; *B*, inferior surface; *abc*, anterior part; *bd*, articular facet with the second metacarpal bone ("*Stethos*" (Str.-Dur.)); *c*, internal, or trapezian surface; *a*, anterior, and *b*, posterior extremities; *D*, external surface next the *Os magnum*; *a*, arthrodial facet of the anterior extremity; *b*, arthrodial facet of posterior extremity.

FIG. 38.—*Os magnum*; *A*, anterior surface; *abc*, body of the bone; *d*, its process; *B*, posterior surface; *ab*, superior arc of the body of the bone; *c*, posterior tuberosity; *C*, internal surface; *abc*, the "body"; *a*, arthrodial facet with "*O. scapho-lunare*": *c*, posterior tuberosity; *d*, antero-internal process and arthrodial facet with the second metacarpal bone and *Os trapezoides*; *D*, external surface; *ab*, superior arthrodial facet with *Os unciforme*; *ad*, inferior arthrodial facet with *Os unciforme*; *c*, posterior tuberosity; *E*, inferior surface; *a*, posterior tuberosity; *b*, anterior extremity.

FIG. 39.—**Os unciforme**; A, internal surface; *a*, antero-inferior angle; *b*, infra-posterior tuberosity; *c*, arthrodial facet with **Os lunare**; *d*, rough depression for the attachment of ligaments; *e*, arthrodial facet with **Os magnum**; *f*, supra-posterior tuberosity; B, external surface; *a*, anterior inferior angle; *b*, infra-posterior tuberosity; *c*, supra-posterior tuberosity; *d*, arthrodial facet for **O. cuneiforme**; C, inferior surface articulating with the fourth and fifth metacarpal bones.

FIG. 40.—*The five bones of the metacarpus, or wrist, side view, and in their numeric order*; A, B, C, D, E, internal surfaces; A, The first metacarpal (**O. primum metacarpiale**); arthrodial facet for **O. phacoides**; *b*, trapezial arthrodial facet; *cd*, phalangeal condyle; B, second metacarpal, (**O. secundum metacarpale**), *a*, posterior tuberosity; *e*, trapezian arthrodial facet; *d*, internal tuberosity; *e*, inferior condyle; C, third metacarpal (**O. tertium metacarpale**); *a*, posterior tuberosity; *b*, and *c*, arthrodial facets for **O. II. metacarpale** between them, a rough depression for the ligaments; *d*, internal tuberosity; *e*, condyle; *f*, “keel” of the condyle; D, fourth metacarpal **O. quartum metacarpale**; *a*, posterior tuberosity and arthrodial facet for **O. III metacarpale**; *b*, arthrodial facet for latter; between the last two facets are rough depressions for attachment of ligaments; *d*, internal tuberosity; *e*, condyle; the “keel”; E, fifth metacarpal, (**O. quintum meta-**

carpale), lettering same as in D, (articulations with the fourth, instead of third metacarpale); F, G, H, I, K, the five metacarpal bones (**Ossa metacarpales**), external surface; F, first metacarpale (**O. I metacarpale**); *a*, arthrodial facet with **O. phacoides**; *b*, trapezial arthrodial facet; *de*, inferior condyle; G, **O. II. metacarpale**; *a*, posterior tuberosity; *ab*, arthr. facet with **Os magnum**; *c* and *d*, arthr. facet with **O. III metacarpale**; *e*, external tuberosity; *f*, condyle; *g*, its “keel”; N, **O. III metacarpale**; *a*, posterior tuberosity; *ef*, and *g*, as in G; *c*, and *d*, arthr. facet with **O. IV metacarpale**; I, **O. IV metacarpale**; *a*, posterior tuberosity; *b*, anterior angle; *c*, and *e*, arthrodial facets with **O. V. metacarpale**; *d*, rough interval for ligament; *k*, **O. V. metacarpale**; *a*, post tuberosity; *b*, external tuberosity; *e*, *f*, and *g*, as in G, L, extremity of a metacarpale bone of a young subject where the epiphysis *a*, is distinct.

FIG. 41.—*The proximal heads of five Oo. metacarpales united, seen from above in their numeric order, indicated at their anterior margin by the letters a, b, d, f, h, and at their posterior margin by a, c, e, g, i.*

FIG. 42.—*A primary phalanx of a digit, superior view—(Phalangeole (F.) Proximal phalanx, or Os primi phalangis); abc, arthr. facet of its base; d, terminal condyle; a'b'c', facet of the base, seen from behind.*

FIG. 43.—*A secondary, or median Phalanx, seen from above, (Phalangine F, Os secundi phalangis); abc, its base; d,*

condyle; *abc*, or *fgh*, arthrodial facet of the base seen from behind.

FIG. 44.—*A tertiary, or imqual phalanx, Os tertii phalangis*, (F.) *Phalange* seen from above; *ab*, the sheath of the claw; *c*, the internal support, or core of the claw.

FIG. 45.—*The left Femur, front view*; *ab*, the "head" (of the Femur); *a*, depression for attachment of *Lig. teres*. (or *Lig. coxo-femoralis*, or interarticulare); the greater trochanter (*trochanter major*); *d*, the "neck"; *o*, external tuberosity; *p*, internal tuberosity; *k/mg*, groove for the *Patella*; *oqp*, suture of the epiphysis.

FIG. 46.—*The same, posterior view*; *a*, depression for attachment of *Lig. teres*; *b*, head; *c*, greater trochanter; *d*, neck; *e*, "*fossa trochanterica*"; *f*, lesser trochanter, (*trochanter minor*); *cgp*, *linea aspera posterior*, *co*, *lin. asp. externa*; *fyp*, *lin. asp. interna*; *ah*, external tuberosity; *i*, internal tuberosity; *op*, suture of the epiphysis.

FIG. 47.—*Superior or proximal extremity of the Femur, seen from above*; *a*, "head"; *b*, greater trochanter; *c*, *fossa trochanterica*; *d*, lesser trochanter; *e*, "neck".

FIG. 48.—*Inferior or distal extremity of the Os femoris, seen from below*; *a*, external tuberosity; *b*, internal tuberosity; *c*, external condyle; *d*, internal condyle; *e*, groove for the *Patella*; *f*, *fossa intercondyloidea*.

FIG. 49.—*The left Patella*.

FIG. 50.—*The left Tibia, front view*; *a*, tibial spine; *ac*, external condyle; *bd*, internal condyle; *c*, epiphysis and

cartilaginous facet to which is applied the *Lig. patellæ*; *f*, angle of *Tibia*; *ff*, tibial crest; *g*, arthrodial facet for *Tibula*; *h*, *malleolus internus*; *i*, *p. styloides*; *ik*, tarsal articular cavity.

FIG. 51.—*The same, back view, lettering as in Fig. 50 except*; *bc*, rough groove for attachment of ligaments; *gki*, tarsal articular cavity; *m*, groove for *M. perodactyleus*, (Riolan).

FIG. 52.—*Superior or proximal head of same, seen from above*; *a*, tibial spine; *f*, angle of the *Tibia*, and epiphysis covered with articular cartilage; *bg*, rough groove; *dgl*, internal condyle; *aem*, external condyle; *g*, groove between the condyles.

FIG. 53.—*Inferior or distal head of the same, from below*; *a*, *p. styloides*; *abcde*, arthrodial facet for *astragalus*; *b*, fibular arthrodial facet.

FIG. 54.—*Superior or proximal head of the Fibulæ, superior view*.

FIG. 55.—*Inferior or distal extremity of the Fibula*; *A*, view from internal side; *b*, arthrodial facet for *astragalus*; *a*, tibial arthrodial facet; *c*, postero-internal tuberosity; *d*, postero-external tuberosity; *B*, the same extremity seen from below; *ad*, arthr. facet for *astragalus*; *b*, postero-internal tuberosity; *c*, postero-external tuberosity intercepting a deep groove in which the *Mm. peronii secundus* and *tertius*.

FIG. 56.—*The left Astragalus*; *A*, anterior surface; *abcd*, its body and the tibial arthrodial pully; *ad*, internal "colline"; *bc*, external "colline"; *ef*, *p. navicularis*; *f*, arthr. facet for the *O. naviculare* (*O. scaphoides*

pedis); B, posterior surface; *abcd*, 'body', *bgdc*, external concave arthr. facet for **O. calcis**; *h*, internal convex do.; *di*, rough groove for the calcaneal ligaments; *k*, another groove for similar purpose; *f*, arthr. facet for **O. naviculare**.

FIG. 57.—*Left calcaneum (Os calcis)*;

A, anterior surface; *abc*, **tuber calcis**; *ab*, cartilaginous facet to which is attached the "**tendo Achillis**"; *dhl*, 'body'; *d*, internal tuberosity; *e*, broad part; *f*, narrow part; *def*, internal arthr. facet for the **Astragalus**; *kl*, external arthr. facet for the **Astragalus**; *l*, its inferior part; *k*, its superior part; *fk*, rugous band for the insertion of the ligament terminating upon the **Astragalus**; *i*, external tuberosity; *gh*, arthr. facet for **Os cuboideum**; *fghil*, "**p. cuboideum**", the surface of which forms the "*cavité sinuesue*", *fhl*; B, posterior surface; *abc*, **tuber calcis**; *ab*, margin where the **tendo Achillis** is attached; *d*, internal tuberosity; *c*, groove of the tendon of **M. perodactyleus**; *i*, internal tuberosity; *gh*, arthr. facet for **Os cuboideum**.

FIG. 58.—*The left Os naviculare*; A, superior surface; *a*, infra-posterior tuberosity; *b*, extra-posterior tuberosity; *abc*, arthr. cavity for the **astragalus**; *d*, facet for **Os calcis**; *cd*, internal (or calcaneal) margin; B, inferior surface; *a* and *b*, same as above; *cde*, arthr. facet for **O. epitrium**, (S.-D.); *h*, arthr. facet for **O. cuneiforme (secundum)**; *i*, arthr. facet for **O. chalcioideum**, (S.-D.).

FIG. 59.—*The left O. chalcioideum*, (S.-

D.), (or **O. cuneiforme primum (pedis)**), external surface; *a*, its navicular arthr. facet; *b*, arthr. facet with **O. secundum metatarsale**; *c*, facet, not arthrodial, by which it touches the **O. cuneiforme (secundum)**.

FIG. 60.—*The left O. cuneiforme (secundum)*, external face; *a*, navicular arthr. facet; *b*, supra-posterior tuberosity; *c*, arthr. facet for **O. epitrium** (S.-D.); *d*, infra-posterior tuberosity.

FIG. 61.—*The left O. epitrium*, (S.-D.);

A, internal surface; *abc*, superior base; *c*, cartilaginous facet for **O. cuneiforme (secundum)**; *d*, antero-inferior angle; *f* and *g*, two arthr. facets articulating with the head of **O. secundum metatarsale**; *h*, tuberosity of the **p. uncinatus (epitrii)**, (S.-D.); *fh*, groove furrow forming the continuation of the **M. peroneus primus**; B, external surface; *ab*, superior base; *c* and *d*, cuboidian arthr. facet; *df*, inferior base; *e*, rugosities for attachment of ligaments *h* and *fh*, as in A.

FIG. 62.—*The left "Cuboid"*, (**O. cuboideum**); A, internal surface; *ab*, superior margin, toward "**Calcaneum**";

e, posterior tuberosity; *f*, end of the groove for the **M. peroneus primus**; *i*, arthr. facet for **O. epitrium**, (S.-D.); *k*, arthr. facet for **O. naviculare**; B, external surface; *abc*, superior base adjacent to "**Calcaneum**"; *de*, groove for **M. peroneus primus**; *d*, its beginning; *fg*, arthr. facet which touches the fifth proximal end of **O. V. metatarsale**; C, posterior surface; *ac*, arthr. facet with "**Calcaneum**"; *df*, groove for **M. peroneus primus**;

g, facet which touches the **O. V. metatarsale**.

FIG. 63.—*The five metatarsale bones placed in their numeric order*; **A**, the anterior surface of the first, or **Os primum metatarsale**; **B**, **C**, **D**, internal surfaces of the three median ones **Ossa secundum, tertium et quartum metatarsales**; **E**, antero-internal surface of the fifth, **Os quintum metatarsale**; **F**, posterior surface of the first (**Os primum metatarsale**); **G**, **H**, and **I**, external surfaces of **Ossa secundum, tertium** and **quartum metatarsales**; **K**, posterior surface of **O. quintum metatarsale**; **A, a** and **b**, arthrol. facets for **O. II metatarsale**; **B, a**, posterior tuberosity of the head of **O. II metatarsale**; **b**, impression of **O. I metatarsale**; **C, a**, posterior tuberosity of the proximal head of the **O. III metatarsale**, and cartilaginous facet for the **O. II metatarsale**; **b**, the other articular facet for same bone, and between *a* and *b* are the ligamentous impressions; **D, a**, posterior tuberosity of the "head" of the **O. IV metatarsale**; **b**, arthrl. facet for **O. III metatarsale**; **c**, internal tuberosity surmounted by the arthr. facet for **O. III metatarsale**; **d**, ligamentous impression; **E, a**, internal tuberosity of head of **O. V metatarsale**; **b**, external tuberosity; **c**, arthr. facet for **O. cuboideum**; **d**, arthr. facet for **O. IV metatarsale**; **e**, ligamentous impressions; **B, C, D**,

and **E, g**, internal tuberosity of the distal head of the several bones; **h**, internal condyle; **i**, "keel" of the condyle; **F, a**, posterior convex rugous surface of **O. I metatarsale**; **b**, internal face applied against the **O. II metatarsale**; **G, a**, posterior tuberosity of head of the **O. II metatarsale**; **b, c**, two arthr. facets for the **O. epitrium**, (S.-D.); **de**, two others for the **O. III metatarsale**; **fg**, ligamentous impressions; **H, a**, post. tuberosity of head of **O. III metatarsale**, and articular facet against which is applied the **O. III granulum**, (S.-D.); **bc**, arthr. facets for the **O. IV metatarsale**; **de**, ligamentous impressions; **I, a**, postr. tuberosity of the **O. IV metatarsale**, bearing the facet against which the **O. IV granulum**, (S.-D.), is applied; **bd, c**, and **f**, arthr. facets for **O. V metatarsale**; **de**, lig. impressions; **K, a**, internal tuberosity, and cartilaginous facet against which is applied the **O. V granulum**, (S.-D.); **b**, external tuberosity; **H, I, K, g**, external tuberosity of the distal head; **h**, external, and **i**, internal condyles; **k**, keel of the condyle.

FIG. 64.—*The superior or proximal surface of the five metatarsale bones united*; **a**, the first; **bc**, the second; **de**, the third; **fg**, the fourth; **hi**, the fifth; **c, e, g, i**, their posterior tuberosities; **k**, external tuberosity of **O. quintum metatarsale**.

